ORDER NO. GAD8611621C1
A6

Service Manual

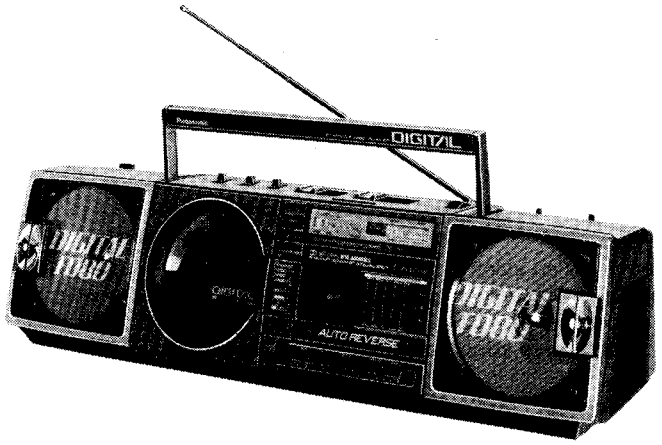
Radio Cassette

Stereo Radio Cassette Recorder RX-FD80

(Black)

COMPACT disc DIGITAL AUDIO

DIGITAL



This is the Service Manual for the following area.

M ··· For U.S.A.

RX-C48 MECHANISM SERIES

■ SPECIFICATIONS

General:

Power Requirement:	AC; 120V, 60Hz
	Battery; 15V (Ten "D" Size Flashlight Batteries) (Panasonic UM-1 or equivalent)
Power Consumption:	40W (AC only)
Power Output:	22W (11W×2)...RMS (max.)
Speaker:	Woofer; $5^1/_2$" (14cm) PM Dynamic Speaker (2.7Ω)
	Tweeter; $^7/_8$" (2.2cm) Ceramic Speaker (1kΩ)
Input:	MIX MIC; sensitivity 5mV applicable microphone impedance 200~600Ω φ3.5
	Line in; sensitivity 200mV/47kΩ over
Output:	Line out; sensitivity 420mV/4.7kΩ under
	Headphones; 32Ω (8~50Ω) φ3.5
Dimensions:	$23^3/_{16}$"(W)×$6^5/_{16}$"(H)×$6^{13}/_{16}$"(D) (588×161×174mm)
Weight:	11lbs. 4oz (5.1kg) without batteries

Disc Player Section:

Sampling Frequency:	44.1kHz
D-A Conversion:	16-bit linear
Pickup:	FF-1 (Fine focus•1 beam)
Light Source:	Semiconductor laser (wavelength 780nm)
No. of Channels:	2 channels, stereo
Frequency Response:	20~20,000Hz (±3dB)
Dynamic Range:	90dB (1kHZ)
S/N Ratio:	90dB (1kHZ)
Wow and Flutter:	below measurable limit

Radio Section:

Radio Frequency Range:	FM; 88~108MHz
	AM; 525~1610kHz
Intermediate Frequency:	FM; 10.7MHz
	AM; 455kHz
Sensitivity:	FM; 2.2μV/50mW output (−3dB limit sens.)
	AM; 71μV/m/50mW output

Tape Deck Section:

Frequency Response:	30~16,000Hz (with normal tape)
	30~16,000Hz (with CrO_2 tape)
Recording System:	AC bias, AC erase
Tape Speed:	$1^7/_8$ ips (4.8cm/s)
Track System:	4-track 2 channel stereo recording and playback

Design and specifications are subject to change without notice.

Panasonic®

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Secaucus, New Jersey 07094

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SAFETY PRECAUTIONS (For U.S.A.)

1. Before servicing, unplug the power cord to prevent an electric shock.
2. When replacing parts, use only manufacturer's recommended components for safety.
3. Check the condition of the power cord. Replace if wear or damage is evident.
4. After servicing, be sure to restore the lead dress, insulation barriers, insulation papers, sheilds, etc.
5. Before returning the serviced equipment to the customer, be sure to make the following insulation resistance test to prevent the customer from being exposed to a shock hazard.

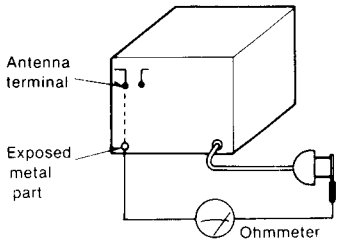


Fig. 1

Resistance = 3MΩ—5.2MΩ

INSULATION RESISTANCE TEST (For U.S.A.)

1. Unplug the power cord and short the two prongs of the plug with a jumper wire.
2. Turn on the power switch.
3. Measure the resistance value with ohmmeter between the jumpered AC plug and each exposed metal cabinet part, such as screwheads, antenna, control shafts, handle brackets, etc. Equipment with antenna terminals should read between 3MΩ and 5.2MΩ to all exposed parts*. (Fig. 1) Equipment without antenna terminals should read approximately infinity to all exposed parts. (Fig. 2)
   * **Note:** Some exposed parts may be isolated from the chassis by design. These will read infinity.
4. If the measurement is outside the specified limits, there is a possibility of a shock hazard. The equipment should be repaired and rechecked before it is returned to the customer.

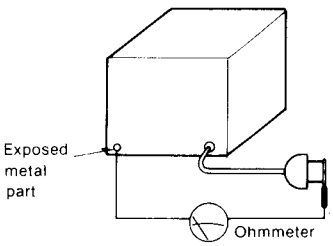


Fig. 2

Resistance = Approx ∞

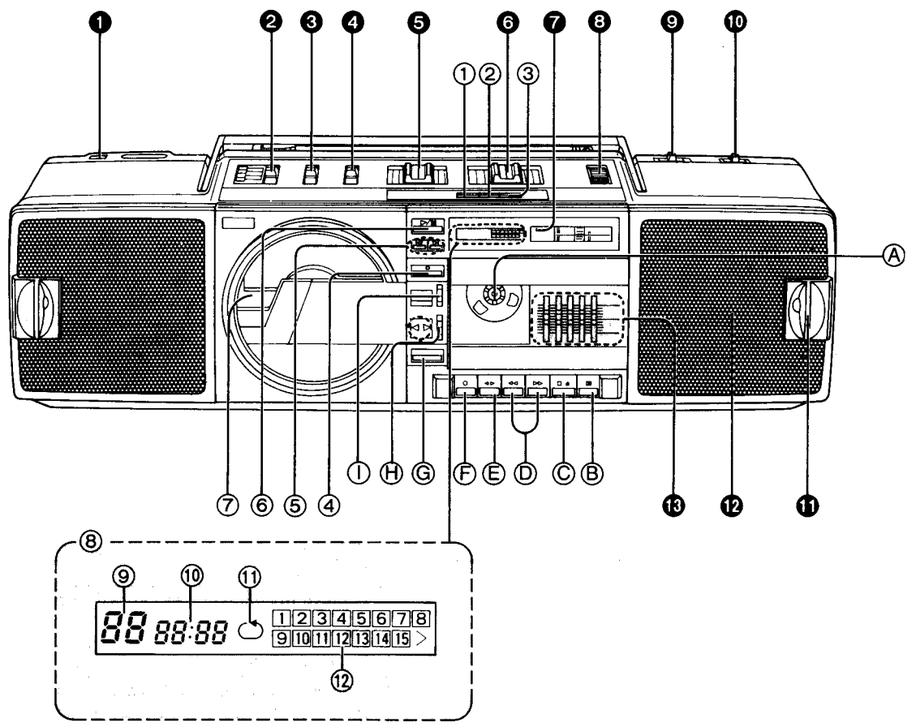
PRECAUTION OF LASER DIODE

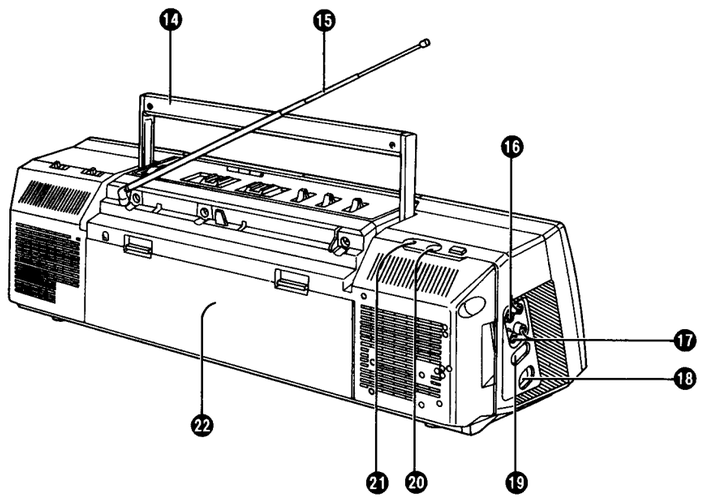
CAUTION:

THIS PRODUCT UTILIZES A LASER.
USE OF CONTROLS OR ADJUSTMENTS OR PERFORMANCE OF PROCEDURES OTHER THAN THOSE SPECIFIED HEREIN MAY RESULT IN HAZARDOUS RADIATION EXPOSURE.

D

LOCATION OF CONTROLS AND COMPONENTS





RADIO/GENERAL CONTROLS

- ❶ Power Switch (POWER)
- ❷ Function Selector (SELECTOR)
- ❸ Tape Selector (TAPE)
- ❹ ※Dolby Noise Reduction Switch (DOLBY NR)
- ❺ Balance Control (BALANCE)
- ❻ Volume Control (VOLUME)
- ❼ FM Stereo Indicator (FM STEREO)
- ❽ Tuning Control (TUNING)
- ❾ Band Selector (BAND)
- ❿ Mode Selector/Beat Proof Switch (MODE/B.P)
- ⓫ Speakers [Tweeter] $5^1/_2$″ (14cm) 2.7Ω
- ⓬ Speakers [Woofer] $^7/_8$″ (2.2cm) 1kΩ
- ⓭ Graphic Equalizer Controls
- ⓮ Handle
- ⓯ Telescopic Antenna
- ⓰ Line Input Jacks (LINE IN) 200mV/47kΩ
- ⓱ Line Output Jacks (LINE OUT) 420mV/4.7kΩ
- ⓲ AC Socket (AC IN ~)
- ⓳ Headphones Jack (PHONES) 32Ω (8~50Ω) φ3.5

When using the headphones, avoid listening to sound at excessive volume levels, which may injure your ears.

- ⓴ Mixing Microphone Jack (MIX MIC) 5mV/200~600Ω, φ3.5
- ㉑ Built-in Microphone (MIC)
- ㉒ Battery Compartment

※"Dolby" and the double-D symbol are trademarks of Dolby Laboratories Licensing Corporation.
Noise Reduction System manufactured under license from Dolby Laboratories Licensing Corporation.

CD CONTROLS

- ① Remaining Time Button (REM TIME)
- ② Repeat Button (REPEAT)
- ③ Memory/Recall Button (MEMORY/RECALL)
- ④ Stop/Clear Button (■STOP/CLEAR)
- ⑤ Skip/Search Buttons (⏮•⏭ SKIP/SEARCH)
- ⑥ Play/Pause Button (▶/❚❚PLAY/PAUSE)
- ⑦ Disc Holder
- ⑧ Display Panel
- ⑨ Track Display (TRACK)
- ⑩ Time Display (TIME)
- ⑪ Repeat Indicator
- ⑫ Program Display (PROGRAM)

TAPE CONTROLS

- Ⓐ Cassette Compartment
- Ⓑ Pause Button (❚❚PAUSE)
- Ⓒ Stop/Eject Button (■/⏏STOP/EJECT)
- Ⓓ Fast/Cue Buttons (◀◀•▶▶FAST/CUE)
- Ⓔ Playback Button (◀•▶PLAY)
- Ⓕ Record Button (● REC)
- Ⓖ Synchro Record Switch (SYNCHRO TAPE & CD)
- Ⓗ Direction Selector and Direction/Power/Battery Check Indicators (DIRECTION/ POWER/BATT)
- Ⓘ Reverse Mode Selector (REVERSE MODE)

BATTERY SERVICE LIFE

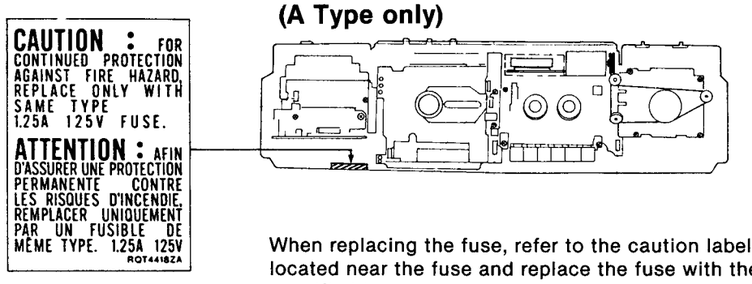
UM-1 (D-size) Batteries
Approx. 7.5 hours of radio (EIAJ)
Approx. 2.5 hours of CD/recording
Approx. 2 hours of CD play
Approx. 13 hours of recording (EIAJ)
Approx. 6.5 hours of playback (EIAJ) with volume set at 10 position

The above battery service life is measured according to the conditions set forth by EIAJ (Electronic Industries Association of Japan). As the battery service life varies with the method of operation and environmental conditions, use these values as reference.

■ CAUTION REGARDING

This model comes with a fuse (A type) or without a fuse (B type).

(A Type only)


CAUTION : FOR CONTINUED PROTECTION AGAINST FIRE HAZARD, REPLACE ONLY WITH SAME TYPE 1.25A 125V FUSE.
ATTENTION : AFIN D'ASSURER UNE PROTECTION PERMANENTE CONTRE LES RISQUES D'INCENDIE, REMPLACER UNIQUEMENT PAR UN FUSIBLE DE MÊME TYPE. 1.25A 125V
ROT441BZA

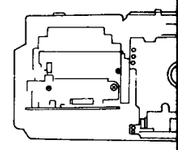
When replacing the fuse, refer to the caution label located near the fuse and replace the fuse with the specified type.

■ CLEAN

If the lens is stai
open the top co
the lens.

- **To remove**

Blow the lens w
to remove dust o



- **To remove**

If the blower is
with the lens c
from center of th

■ HANDL

The laser diode
or human body.
So, be careful of

- **Handling of**

1. Do not give
because it is c
2. To prevent t
static shortin
When removi
job in a short
3. Take care not
4. Do not turn
ment). (It ha

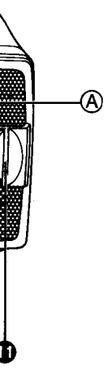
- **Grounding**

1. Human body
Use the ant
electricity fro
2. Work table gr
Put a conduc
area where th
sheet.

Caution:
The static
grounded thr
let your cloth

▼ Be sure to fold

ENTS



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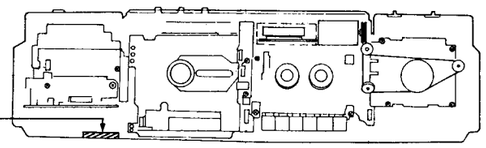


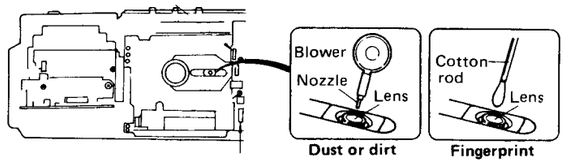
When replacing the fuse, refer to the caution label located near the fuse and replace the fuse with the specified type.

■ CLEANING OF LENS

If the lens is stained causing sound skip or operation failure, open the top cover by pressing the open button, and clean the lens.

• To remove dust or dirt

Blow the lens with the blower provided in the cleaning kit to remove dust or dirt.



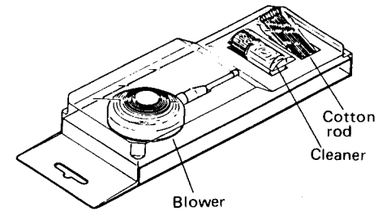
• To remove fingerprint

If the blower is not enough, moisten the cotton rod with the lens cleaner solution and wipe the lens with it from center of the lens to outside.

Cautions:

- Do not directly apply the cleaner solution to the lens. Do not apply too much solution to the cotton rod or otherwise the solution will flow into the player.
- Wipe the lens carefully. Do not give too much stress to the lens or otherwise it may scratch the lens or cause optical pickup trouble.
- If the solution should be too much applied, wipe the lens with a dry cotton rod.

Lens cleaning kit (Part No. : SZZP1038C)

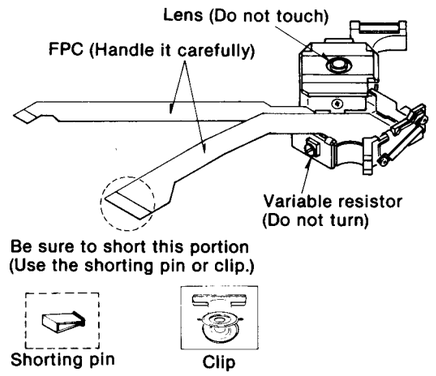


■ HANDLING PRECAUTIONS FOR OPTICAL PICKUP

The laser diode in the optical pickup may break down due to potential difference caused by static electricity of clothes or human body.
So, be careful of electrostatic breakdown during repair of the optical pickup.

• Handling of optical pickup

1. Do not give excessive shock to the optical pickup because it is of extremely high precision structure.
2. To prevent the breakdown of the laser diode, an anti-static shorting pin is inserted into the FPC.
   When removing or connecting the short pin, finish the job in a short time.
3. Take care not to give excessive stress to the FPC.
4. Do not turn the variable resistor (laser power adjustment). (It has been already adjusted.)

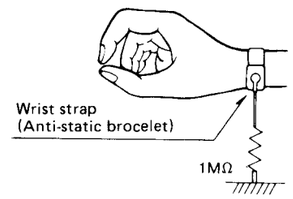

Lens (Do not touch)
FPC (Handle it carefully)
Variable resistor (Do not turn)
Be sure to short this portion (Use the shorting pin or clip.)
Shorting pin
Clip

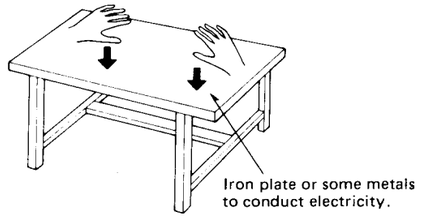
• Grounding for electrostatic breakdown prevention

1. Human body grounding
   Use the anti-static wrist strap to relieve the static electricity from your body.
2. Work table grounding
   Put a conductive material (sheet) or steel sheet on the area where the optical pickup is placed, and ground the sheet.

Caution:

The static electricity of your clothes will not be grounded through the wirst strap. So, take care not to let your clothes touch the optical pickup.





▼ Be sure to fold at the (▼) mark so that mark is on the outside.

DISASSEMBLY INSTRUCTIONS

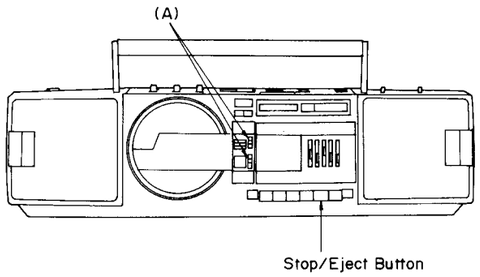


Fig. 1

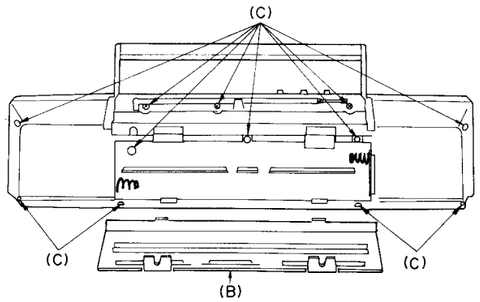


Fig. 2

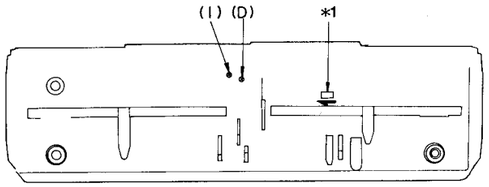


Fig. 3

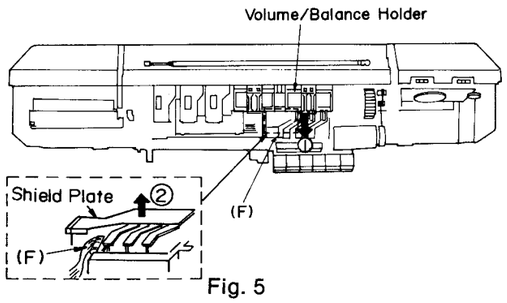


Fig. 5

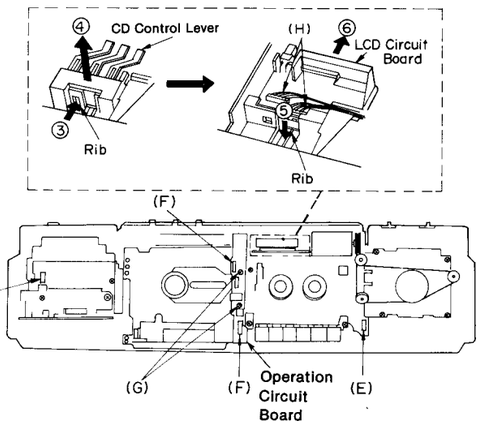


Fig. 4

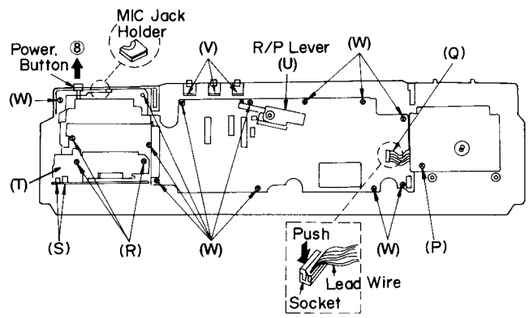


Fig. 7

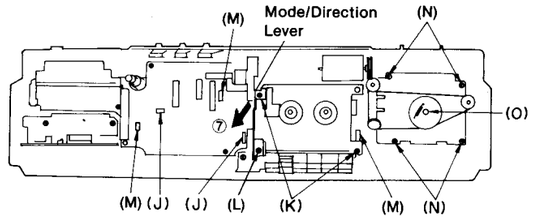


Fig. 6

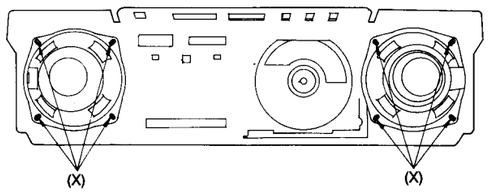


Fig. 8

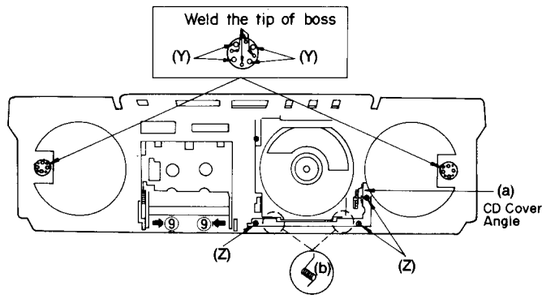


Fig. 9

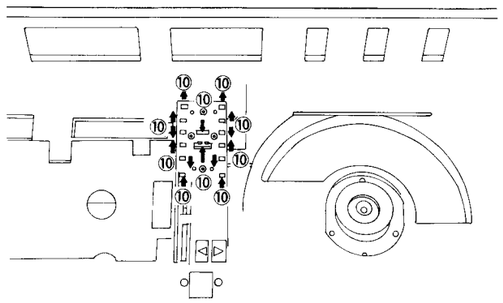


Fig. 10

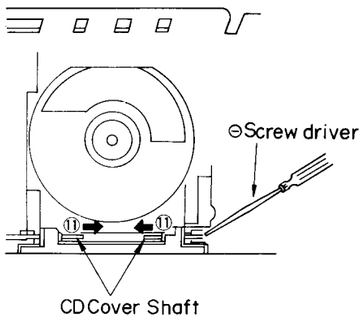
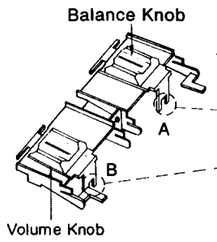


Fig. 11



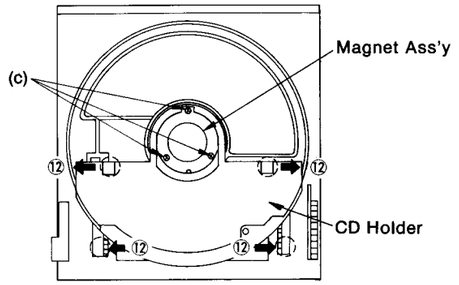


Fig. 12

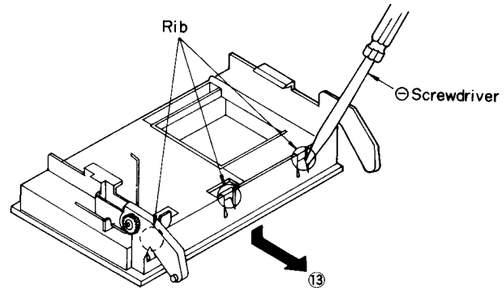


Fig. 13

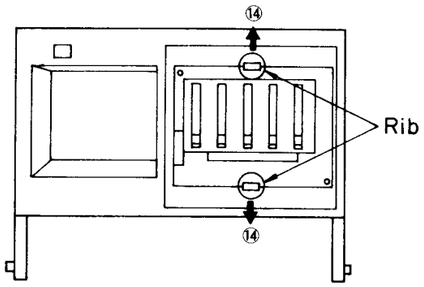
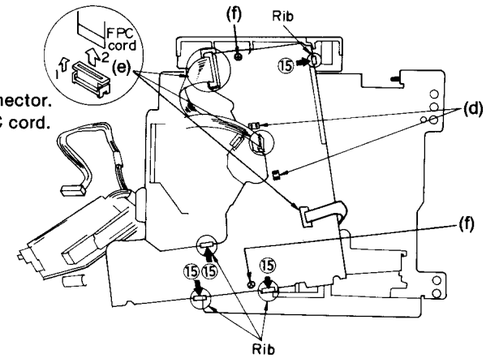


Fig. 14



1. Lift the connector.
2. Pull out FPC cord.

Fig. 15

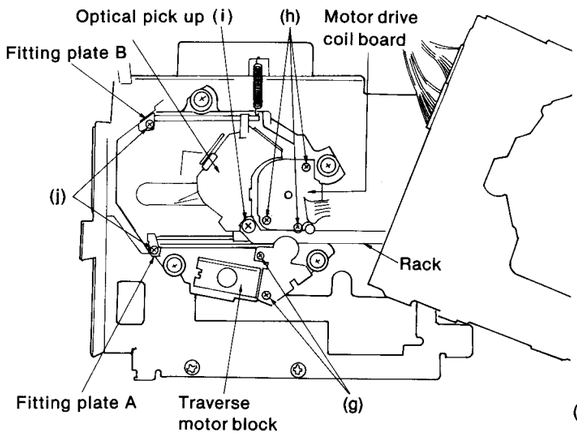


Fig. 16

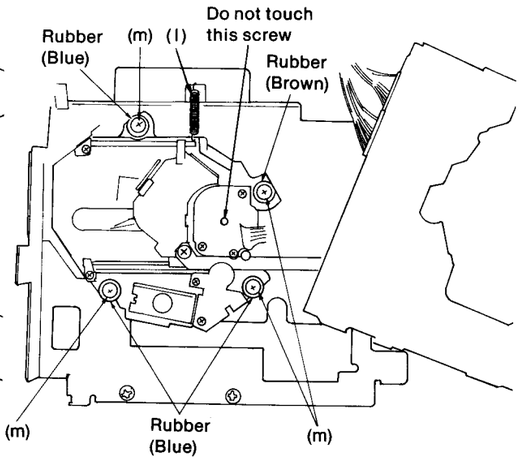


Fig. 17

Steps.	Shown In
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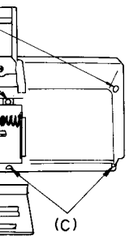


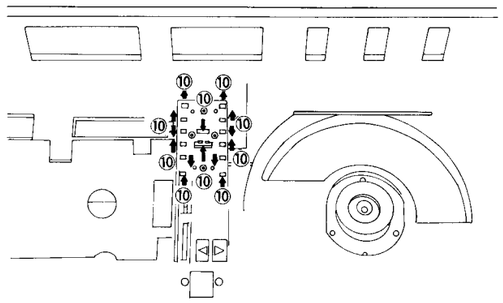


Fig. 10

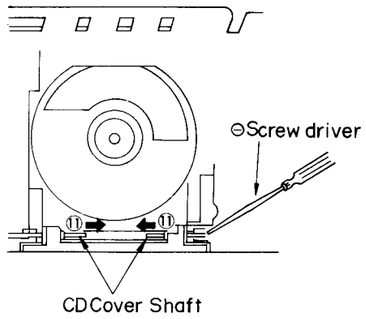
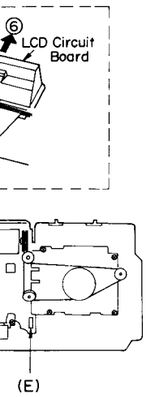


Fig. 11



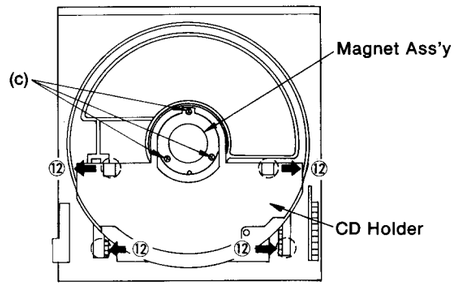


Fig. 12

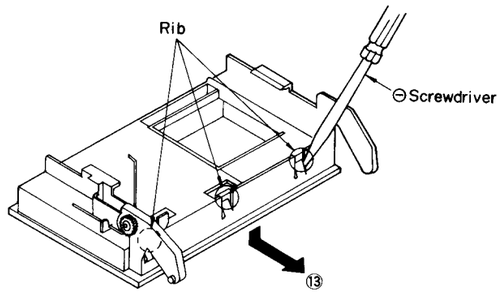


Fig. 13

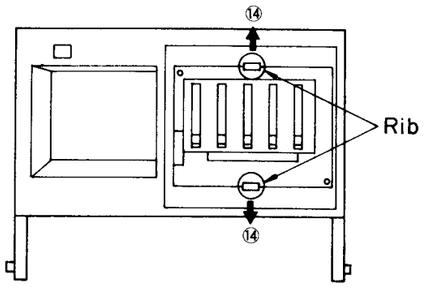


Fig. 14

1. Lift the connector.
2. Pull out FPC cord.

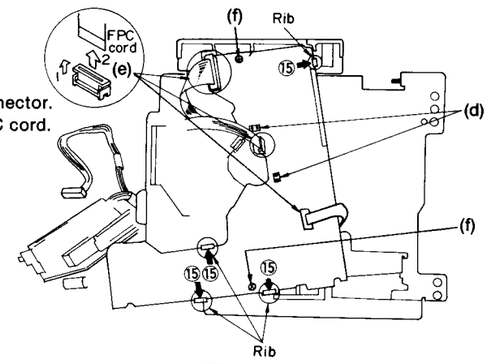


Fig. 15

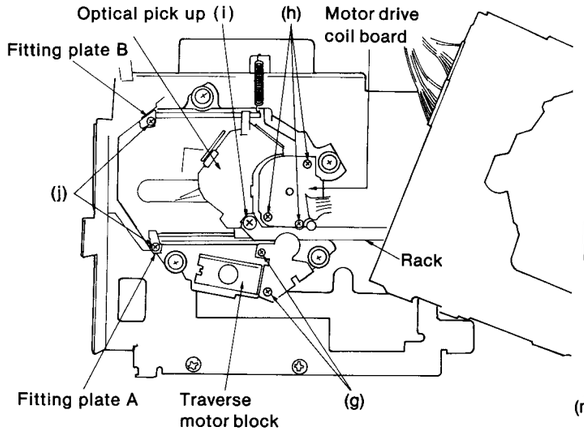


Fig. 16

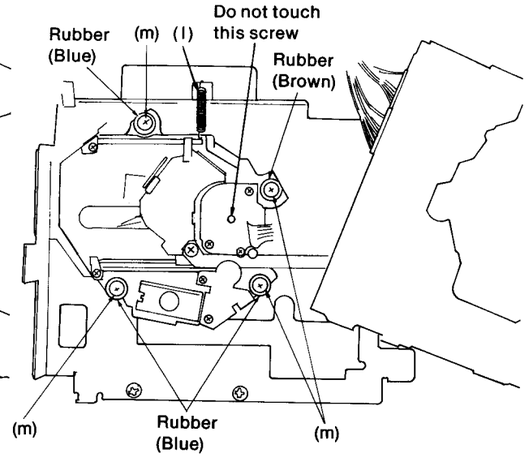


Fig. 17

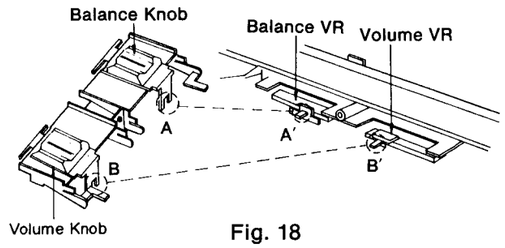


Fig. 18

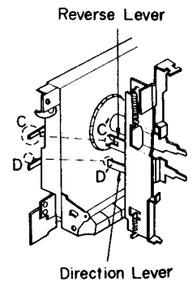


Fig. 19

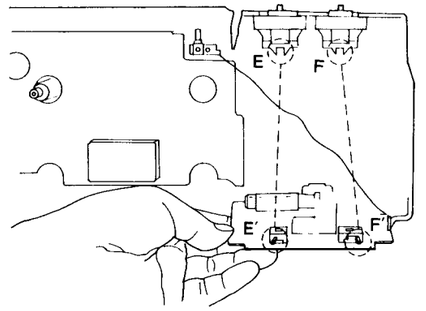


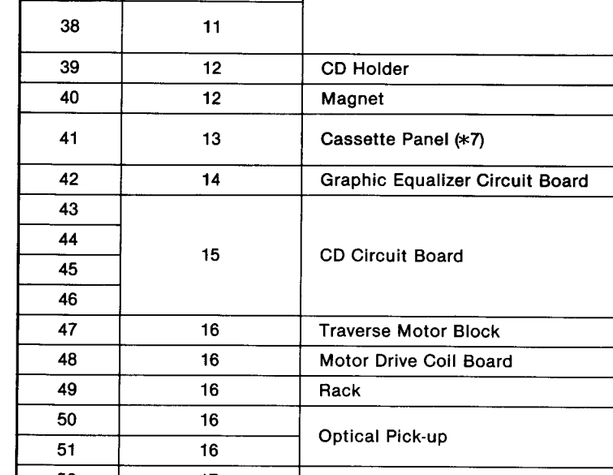
Fig. 20

Steps.	Shown in Fig. —.	To remove —.	Remove —.
1	1	Front Cabinet (*2)	Knob ..... (A)×2
2	2		Remove the battery cover ..... (B)×1
3	2		Screw (3×40)mm ..... (C)×12
4	3		Screw (3×8)mm ..... (D)×1
5	1		Push the Stop/Eject button
6	4		Socket (CP101, CP108) ..... (E)×2
7	5	Volume/Balance Holder (*3)	Remove the volume/balance holder in the direction of arrow ①.
8	5	Operation Circuit Board	Remove the shield plate in the direction of arrow ②.
9	4, 5		Socket (CP106, CP501, CP502) ..... (F)×3
10	4		Screw (3×6)mm ..... (G)×2
11	4	LCD Circuit Board	Push the rib in the direction of arrow ③ and pull out the CD control lever in the direction of the arrow ④.
12	4		Push the rib in the direction of arrow ⑤ and pull out the LCD circuit board in the direction of the arrow ⑥.
13	4		Socket (CP503, CP504) ..... (H)×2
14	3	Compact Disc Ass'y	Screw (3×8)mm ..... (I)×1
15	6		Socket (CP103, CP105) ..... (J)×2
16	6	Mechanism Ass'y (*4)	Screw (3×12)mm ..... (K)×3
17	6		Screw (3×4)mm ..... (L)×1
18	6		Remove the mode/direction lever in the direction of arrow ⑦.
19	6		Socket (CP102, CP104, CP109) ..... (M)×3
20	6	Dial Chassis	Screw (3×12)mm ..... (N)×4
21	6		Screw (2.6×5)mm with washer ..... (O)×1
22	7	Tuner Circuit Board (*5)	Screw (3×10)mm ..... (P)×1
23	7		Socket (CS107) ..... (Q)×1
24	7	Power Supply Circuit Board	Screw (3×12)mm ..... (R)×3
25	7		Socket (CP110, CP111) ..... (S)×2
26	7		Jack pressure angle ..... (T)×1
27	7	Main Circuit Board	R/P Lever ..... (U)×1
28	7		Switch knob holder ..... (V)×3
29	7		Screw (3×12)mm ..... (W)×12
30	7		Pull out the power button in the direction of arrow ⑧.

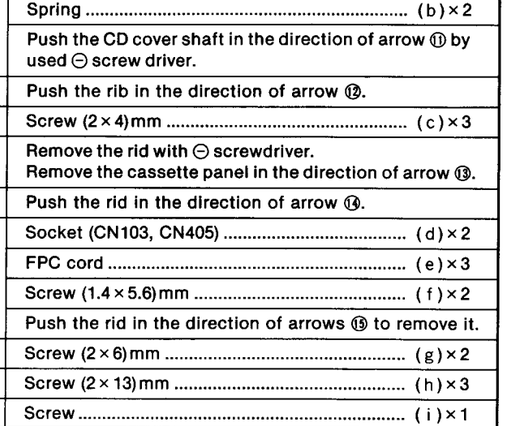
Steps.	Shown in Fig. —.	To remove —.	Remove —.
31	8	Speaker (Woofer)	Screw (3 × 10) ..... (X) × 8
32	9	Tweeter Ass'y (*6)	Cut the tip of boss..... (Y) × 8
33	9	Cassette Holder	Push the boss in the direction of arrows ⑨ to remove it.
34	10	Operation Button	Push the rid in the direction of arrow ⑩.
35	9	CD Compartment	Screw (3 × 10) mm ..... (Z) × 3
36	9		Angle..... (a) × 1
37	9		Spring ..... (b) × 2
38	11		Push the CD cover shaft in the direction of arrow ⑪ by used ⊖ screw driver.
39	12	CD Holder	Push the rib in the direction of arrow ⑫.
40	12	Magnet	Screw (2 × 4) mm ..... (c) × 3
41	13	Cassette Panel (*7)	Remove the rid with ⊖ screwdriver. Remove the cassette panel in the direction of arrow ⑬.
42	14	Graphic Equalizer Circuit Board	Push the rid in the direction of arrow ⑭.
43	15	CD Circuit Board	Socket (CN103, CN405) ..... (d) × 2
44			FPC cord ..... (e) × 3
45			Screw (1.4 × 5.6) mm ..... (f) × 2
46			Push the rid in the direction of arrows ⑮ to remove it.
47	16	Traverse Motor Block	Screw (2 × 6) mm ..... (g) × 2
48	16	Motor Drive Coil Board	Screw (2 × 13) mm ..... (h) × 3
49	16	Rack	Screw..... (i) × 1
50	16	Optical Pick-up	Screw (2 × 6) mm ..... (j) × 2
51	16		Fitting Plate A, B ..... (k) × 2
52	17	Traverse Base	Spring ..... (l) × 1
53	17		Screw..... (m) × 4

(*1) When the tape is caught in the pinch roller, etc. release the tape by tuning the pulley on the motor with the screwdriver in the direction of the arrow. (Fig. 3)
(*2) The handle is attached between the front cabinet and the rear cabinet, so the handle can be easily removed by first removing the front cabinet.
When removing the front cabinet, the microphone jack holder may come off, so be careful not to lose it. (Fig. 7)
(*3) During installation, simultaneously fit in A and A′, B and B′. (Fig. 18)
(*4) During installation, simultaneously fit in C and C′, D and D′. (Fig. 19)
(*5) During installation, simultaneously fit in E and E′, F and F′. (Fig. 20)
(*6) When replacing the tweeter, attach the tweeter to the front cabinet by welding it to the remainder of the boss. (Fig. 9)
(*7) The ribs on the cassette lid are extremely rigid, so be careful not to break them.

■ DIAL THREADING

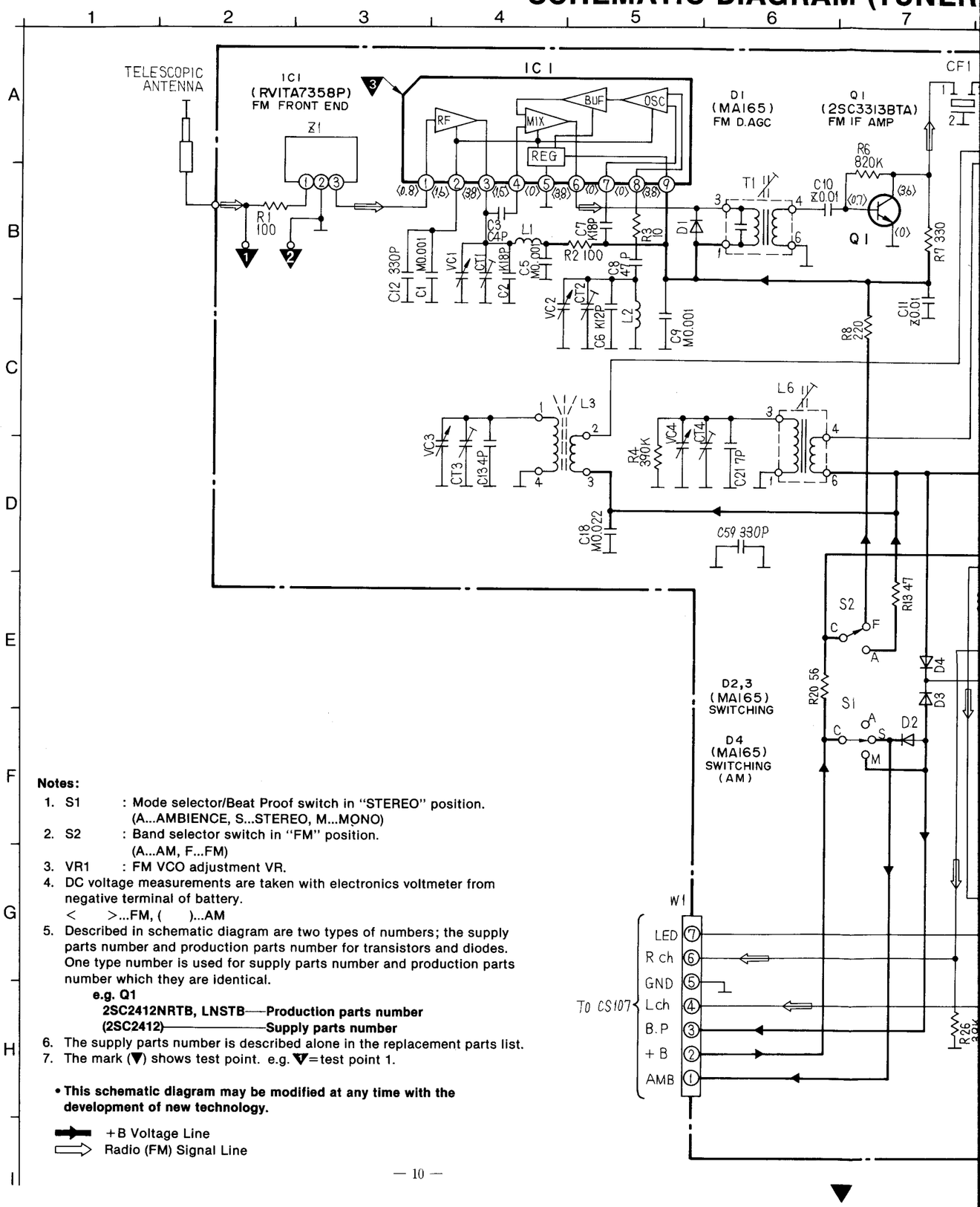


■ POINT ADJUSTMENT



1. Turn the dial drum all the way in the direction of the arrow ⑯.
2. Line up the marking on the memory sheet with the corner of the dial chassis.

SCHEMATIC DIAGRAM (TUNER



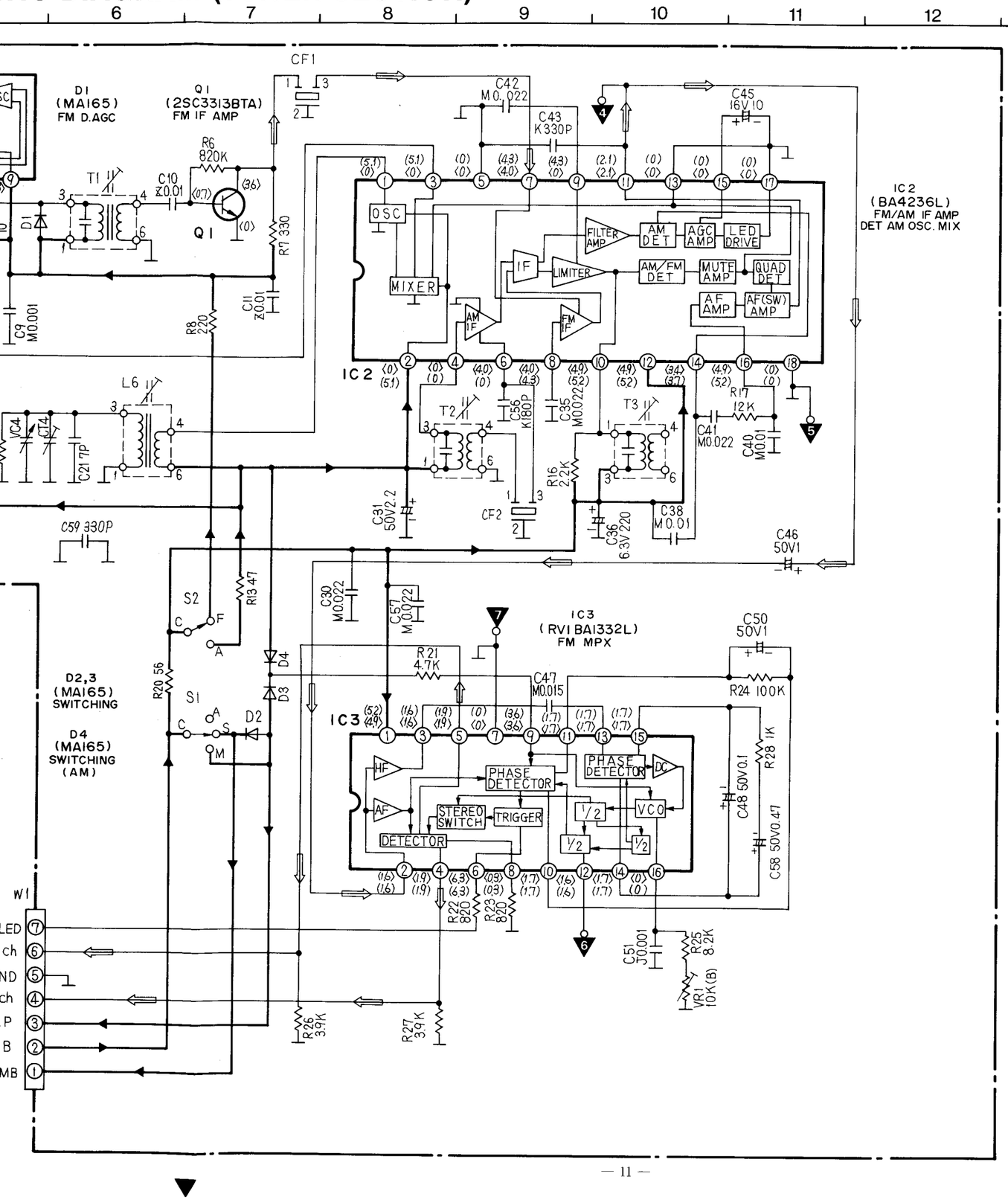
Notes:

1. S1 : Mode selector/Beat Proof switch in "STEREO" position. (A...AMBIENCE, S...STEREO, M...MONO)
2. S2 : Band selector switch in "FM" position. (A...AM, F...FM)
3. VR1 : FM VCO adjustment VR.
4. DC voltage measurements are taken with electronics voltmeter from negative terminal of battery.
   < >...FM, ( )...AM
5. Described in schematic diagram are two types of numbers; the supply parts number and production parts number for transistors and diodes. One type number is used for supply parts number and production parts number which they are identical.
   e.g. Q1
   2SC2412NRTB, LNSTB—Production parts number
   (2SC2412)—Supply parts number
6. The supply parts number is described alone in the replacement parts list.
7. The mark (▼) shows test point. e.g. ▼=test point 1.

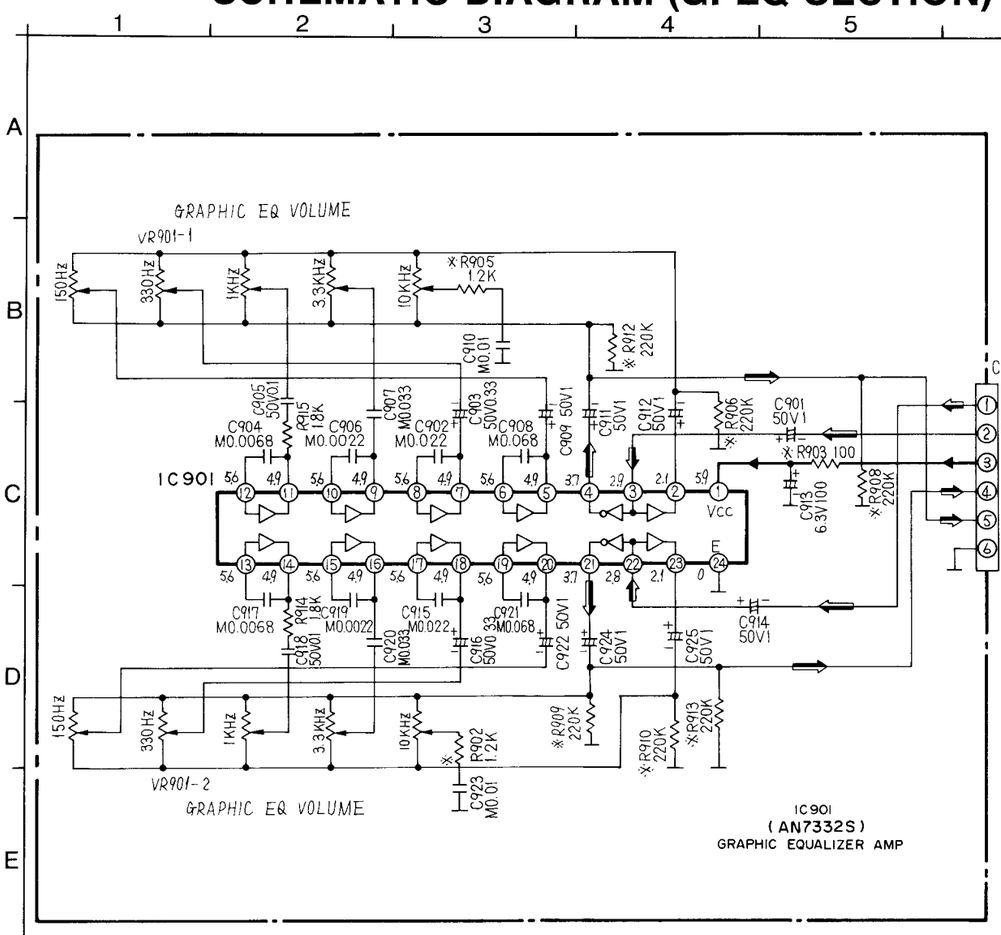
• This schematic diagram may be modified at any time with the development of new technology.

+B Voltage Line
Radio (FM) Signal Line

TIC DIAGRAM (TUNER SECTION)



SCHEMATIC DIAGRAM (G. EQ SECTION)



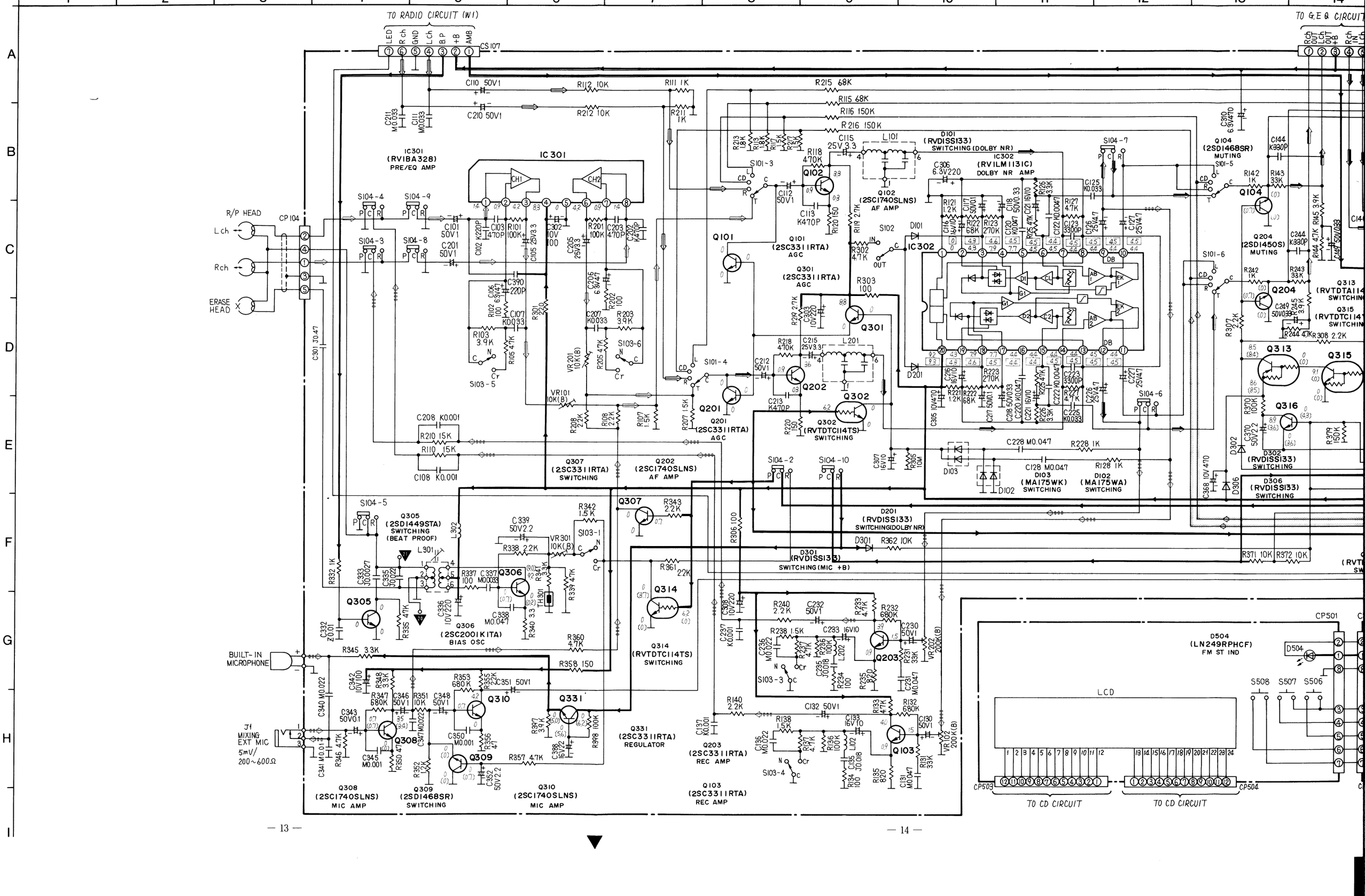
Notes:

1. VR901-1, 901-2: G. EQ Control VR.
2. (※) mark... Printed Resistor.
3. DC voltage measurements are taken with electronics voltmeter from negative terminal of battery.
   No mark... Playback
4. Described in schematic diagram are two types of numbers; the supply parts number and production parts number for transistors and diodes. One type number is used for supply parts number and production parts number which they are identical.
   e.g. Q1
   2SC2412NRTB, LNSTB—Production parts number
   (2SC2412)————————Supply parts number
5. The supply parts number is described alone in the replacement parts list.

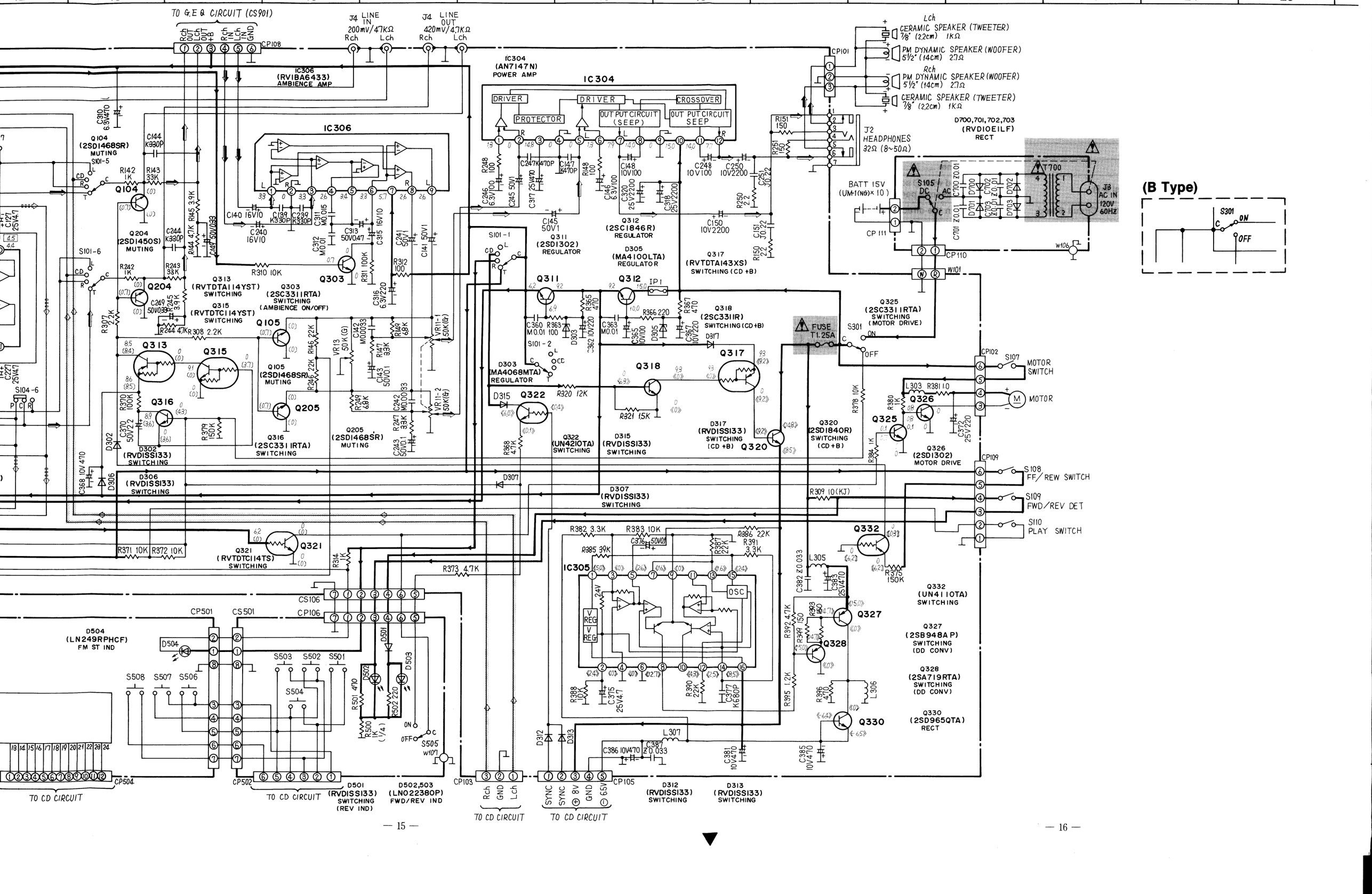
- **This schematic diagram may be modified at any time with the development of new technology.**

⇒ Tape and Radio Signal Line
➡ +B Voltage Line

SCHEMATIC DIAGRAM (MAIN SEC



C DIAGRAM (MAIN SECTION)

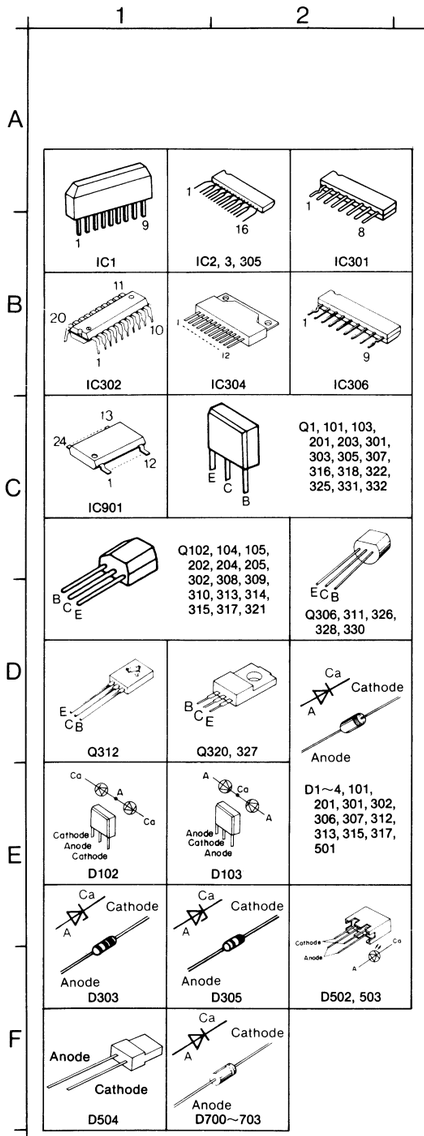


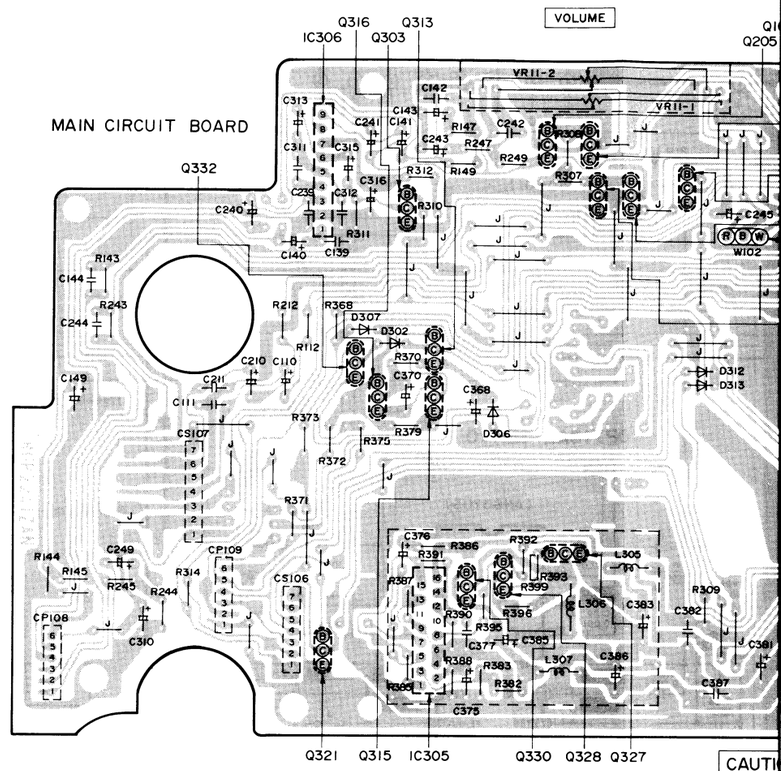
■ SCHEMATIC DIAGRAM (MAIN SECTION)

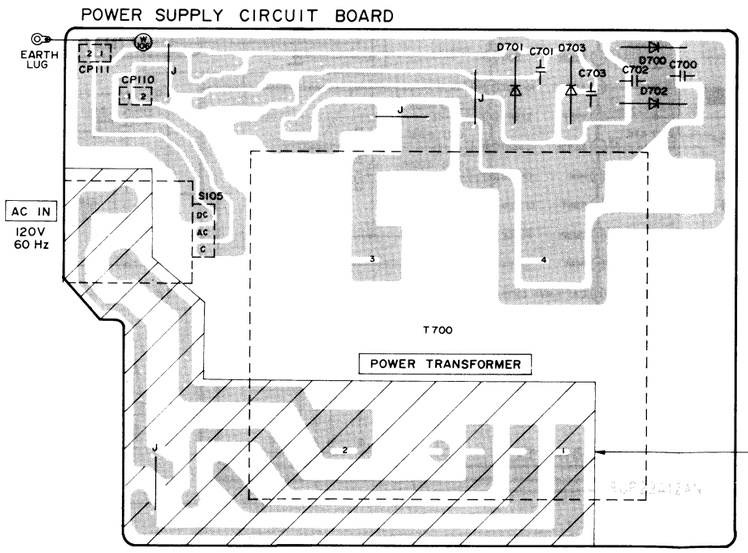
Notes:

1. S101-1～S101-6 : Function selector switch in "Tape" position. (L...Line, CD...CD, R...Radio, T...Tape)
2. S102 : Dolby NR switch in "Out" position.
3. S103-1, S103-3～S103-6 : Tape selector switch in "Normal" position. (N...Normal, Cr...CrO_2)
4. S104-2～S104-10 : Record/Playback switch in "Playback" position. (R...Record, P...Playback)
5. S105 : AC/DC select switch in "DC" position.
6. S107 : Motor switch in "OFF" position.
7. S108 : FF/REW switch in "OFF" position.
8. S109 : FWD/REY DET switch in "OFF" position.
9. S110 : Play switch in "OFF" position.
10. S301 : Power switch in "OFF" position.
11. S501 : Play/Pause switch in "OFF" position.
12. S502 : FF skip/Search switch in "OFF" position.
13. S503 : REW skip/Search switch in "OFF" position.
14. S504 : Stop/Clear switch in "OFF" position.
15. S505 : Synchro record switch in "OFF" position.
16. S506 : Remaining Time switch in "OFF" position.
17. S507 : Repeat switch in "OFF" position.
18. S508 : Memory/Recall switch in "OFF" position.
19. VR11-1, 11-2 : Volume control VR.
20. VR13 : Balance control VR.
21. VR101, 201 : Playback Level adjustment VR.
22. VR102, 202 : Record/Playback gain adjustment VR.
23. VR301 : Rec Bias adjustment VR.
24. DC voltage measurements are taken with electronics voltmeter from negative terminal of battery.
    [ ]...Record, No mark...Playback
    《 》...CD Play, [[ ]]...FF/REW, □...Dolby IN
25. Battery current: No signal (FM)..... 136mA
    No signal (AM)..... 122mA
    Maximum output (FM)..... 761mA
    Maximum output (AM)..... 719mA
    Maximum output (PLAY)..... 1050mA
    Maximum output (CrO_2 REC)..... 1138mA
    Maximum output (CD)..... 1630mA
26. Described in schematic diagram are two types of numbers; the supply parts number and production parts number for transistors and diodes. One type number is used for supply parts number and production parts number which they are identical.
    e.g. Q1
    2SC2412NRTB, LNSTB—Production parts number
    (2SC2412)————————Supply parts number
27. The supply parts number is described alone in the replacement parts list.
28. The mark (▼) shows test point. e.g. ▼=test point 1.
29. **Importantsafety notice (⚠).**
    The shaded area on this schematic diagram incorporates special features important for protection from fire and electrical shock hazards.
    When servicing it is essential that only manufacturer's specified parts be used for the critical components in the shaded areas of the schematic.
30. This model comes with a fuse (A type) or without a fuse (B type). When repairing, refer to the respective schematic diagrams.
    - **This schematic diagram may be modified at any time with the development of new technology.**

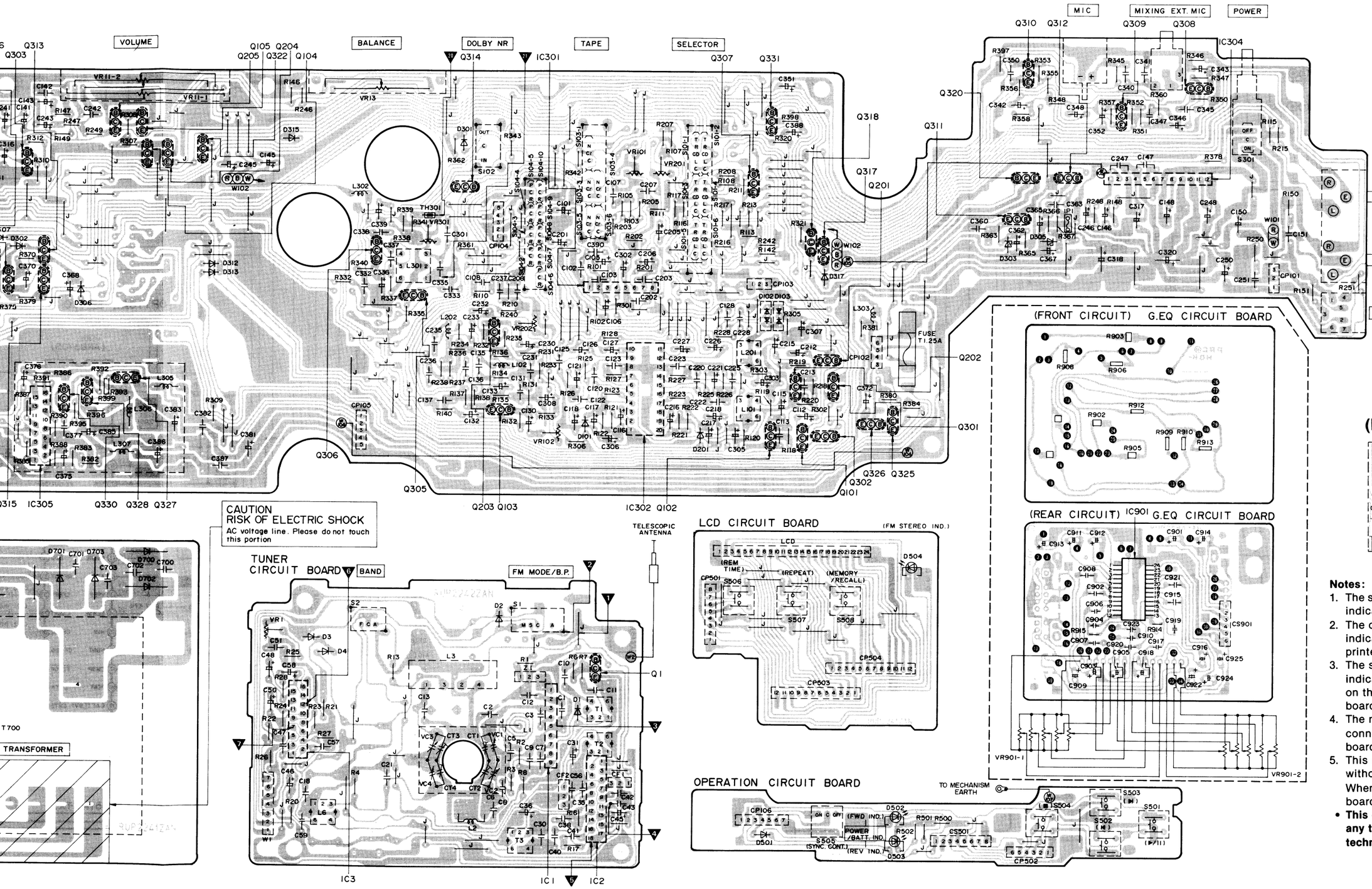
Tape (PLAY) Signal Line
Tape (RECORD) Signal Line
Tape and Radio Signal Line
+B Voltage Line
Audio Signal Line (CD)
Radio (FM) Signal Line







CIRCUIT BOARD



Notes:

1. The symbols (▭) shown in the circuit board indicate printed resistor.
2. The circuit shown in (▬) on the conductor indicates printed circuit on the back side of the printed circuit board.
3. The symbols (●) shown in the circuit board indicate connection points between conductors on the front side and back side of the circuit board.
4. The numbers in circles "●" indicate the res connection points of the front and rear circuit boards.
5. This model comes with a fuse (A type) or without a fuse (B type).
   When repairing, refer to the respective circuit board.

- **This circuit board diagram may be modified at any time with the development of new technology.**

NO	Stop	Play
1	0	0.236μs
2	0	0.2μs/V/DIV
3	0	0
4	0	0.2μs/V/DIV
5	0	0
6	0	0
7	0	2.5
8	0.2	5
9	0	0
10	0.2	4.8
11	0.5	-5
12	0	-0.2
13	0	-0.2
15	0	0
16	0.1	0.5μs/V/DIV

TO CP503 TO CP504

SYSTEM CONTROL / LCD DRIVE

IC401 (MN15845PDG)

DATA SLICE, PLL

IC304 (GX573) PLL MODULE

PLL adj.

SPINDLE MOTOR DRIVE

IC251 (AN8290S)

D251 (MA153TX)

TRV. MOTOR

OPTICAL SERVO

IC101 (AN8370S)

Tracking offset adj.

Tracking gain adj.

IC303 (MN4416S-12)

16K RAM

IC301 (MN6617)

DIGITAL SIGNAL PROCESSING

REST SW S803

LASER ON/OFF SW S801

OPEN/CLOSE SW S802

TO CP502

Q401 (DTA 144EKT96)

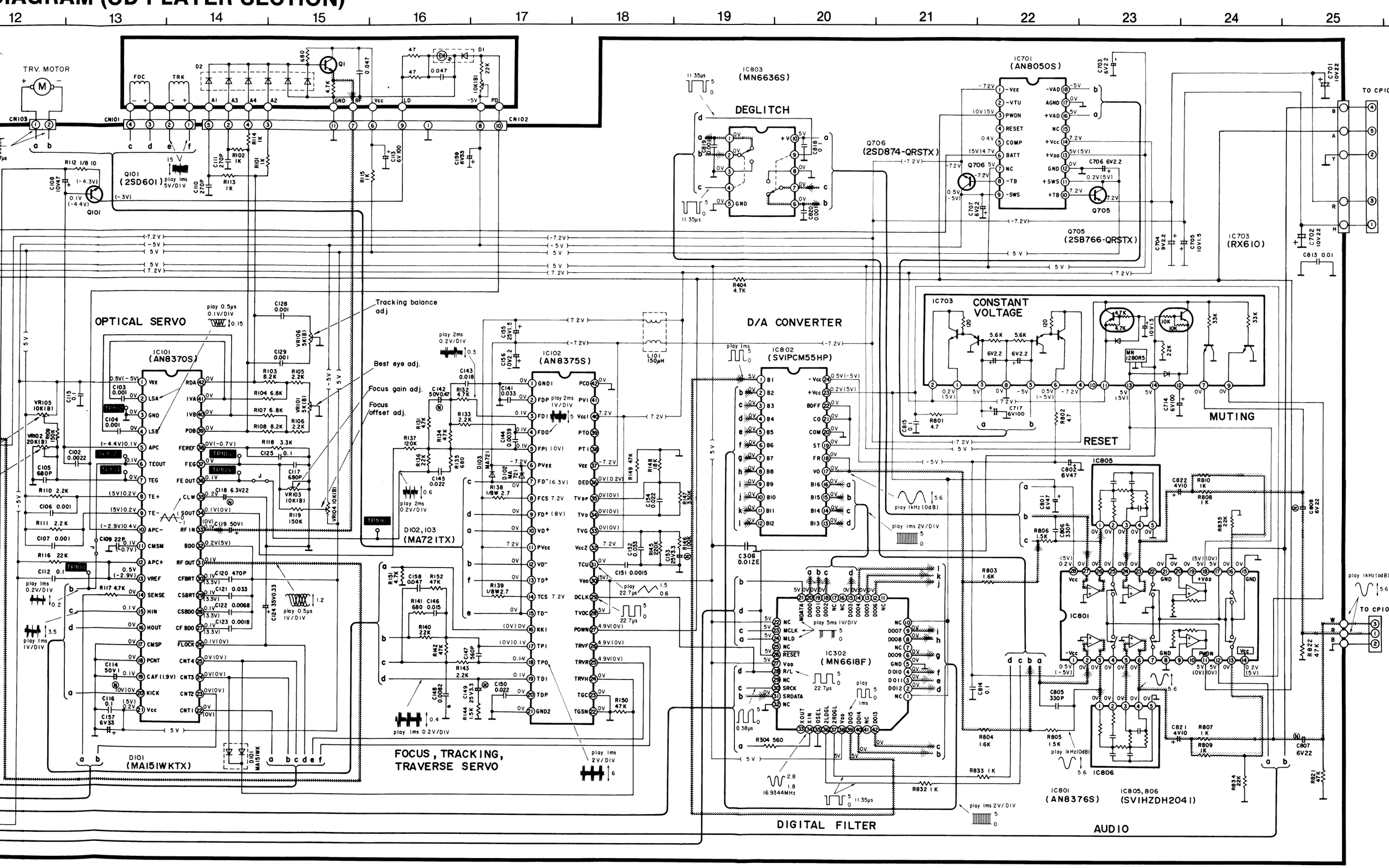
D405 (MA151WKTX)

D406 (MA151WKTX)

D404 (MA151WKTX)

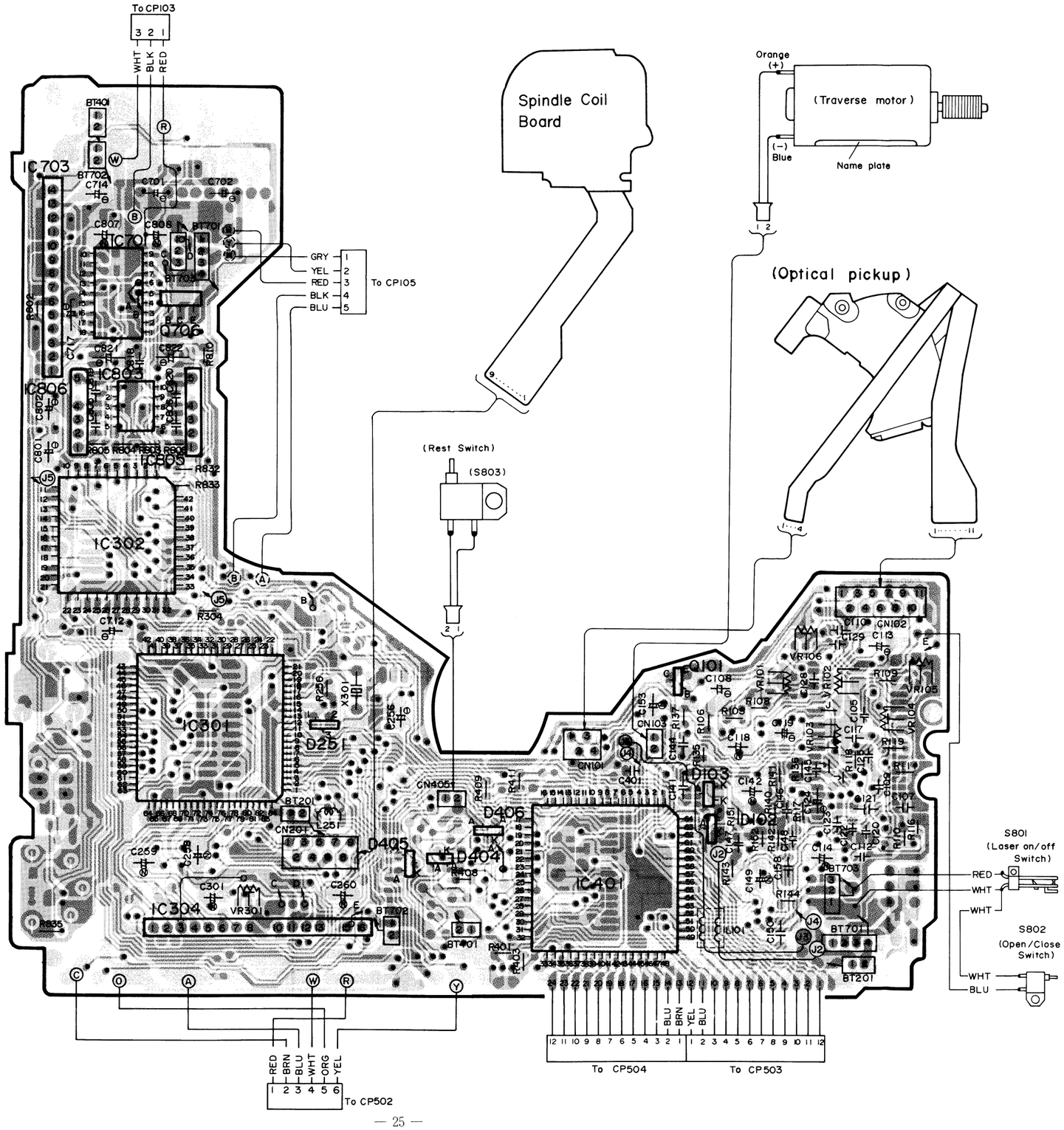
D101 (MA151WKTX)

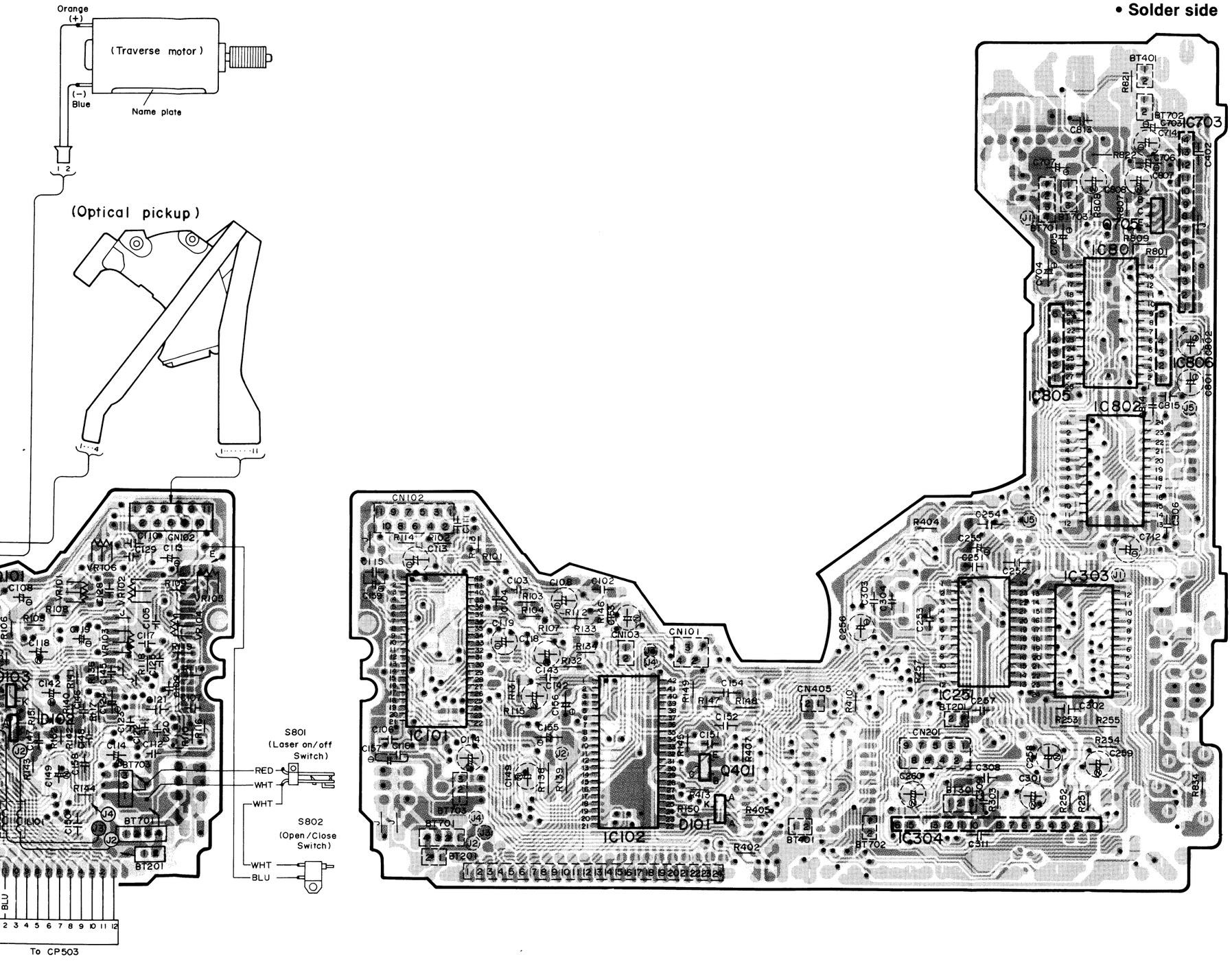
DIAGRAM (CD PLAYER SECTION)



■ PRINTED CIRCUIT BOARD

• **Parts side**





■ SCHEMATIC DIAGRAM

(This schematic diagram may be modified at any time with the development of new technology.)

Notes:

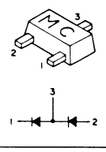
1. S801 : Laser ON/OFF switch in "**OFF**" position.
2. S802 : Open/Close switch in "**OFF**" position.
3. S803 : Rest switch in "**off**" position.
   (It turns "**on**" when optical pickup comes to innermost periphery.)
4. The voltage value and waveforms are the reference voltage of this unit measured by DC electronic voltmeter (hitg impedance) and oscillosco on the basis of GND terminal.
   Accordingly, there may arise some error in the voltage values values and waveforms depending upon the internal impedance of the tester or measuring unit.
   *The parenthesized is the voltage for test disc (1 kHz, L+R, 0dB) in play mode, and the other, for no disc in stop mode.
5. ——— : Positive voltage line and netgative voltage line.
   ····· : Audio signal line (CD).

* Caution !

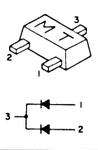
IC and LSI are sensitive to static electricity.
Secondary trouble can be prevented by taking care during repair.
* Cover the parts boxes made of plastics with aluminum foil.
* Ground the soldering iron.
* Put a conductive mat on the work table.
* Do not touch the legs of IC or LSI with the fingers directly.

• Terminal guide of IC's, transistors and diodes

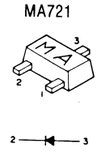
MA153



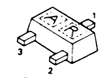
MA151WK



MA151, MA721

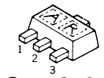


DTC114EKT96, 2SD1328, DTB113ZKT96, 2SB709, DTA144EKT96, 2SD601



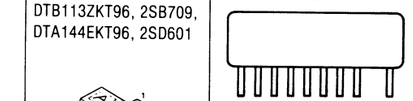
1. Collector
2. Emitter
3. Base

2SB766, 2SD874, 2SD1280



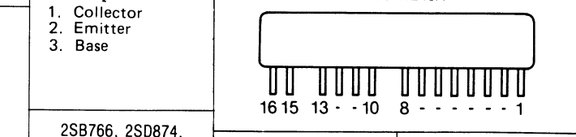
1. Base 2. Collector
3. Emitter

EHDRD1253

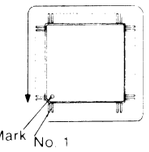


SVIGA011

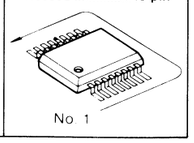
EHDGA1245A



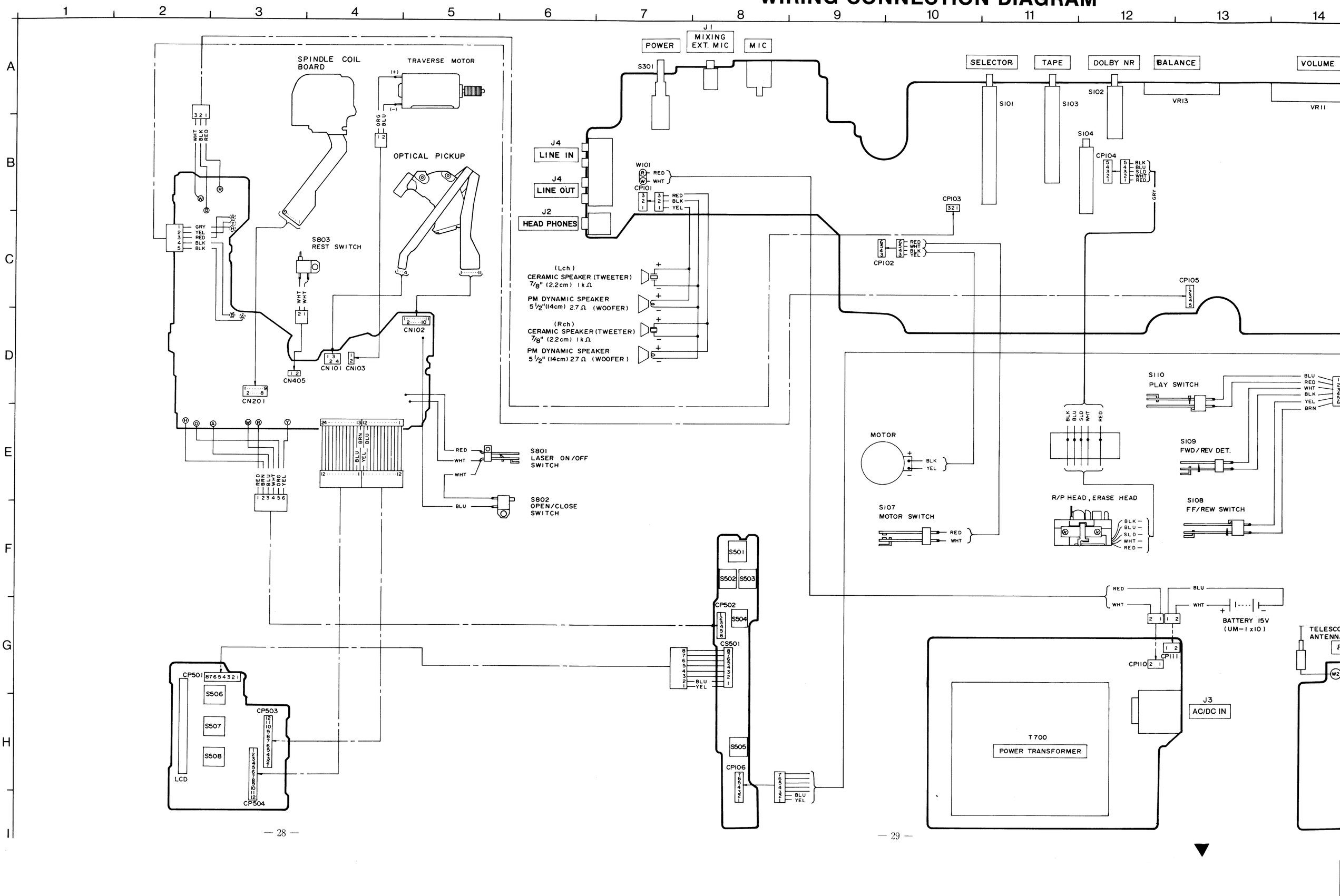
MN6617S.....84 pin
MN6618.....42 pin
MN15845PDG.....64 pin



AN8370S.....42 pin
MN4416S.....24 pin
AN8376S.....28 pin
MN6636S.....10 pin
AN8290S.....24 pin
MN1550PDL.....18 pin
AN8375S.....42 pin
SVIPCM55HP.....24 pin
AN8050S.....18 pin



WIRING CONNECTION DIAGRAM



WIRING CONNECTION DIAGRAM

6 7 8 9 10 11 12 13 14 15 16 17 18 19

J1
POWER
MIXING EXT. MIC
MIC
S301
SELECTOR
TAPE
DOLBY NR
BALANCE
VOLUME
S101
S103
S102
VR13
VR11
S104
CP104
BLK BLU SLD WHT RED
GRY
J4 LINE IN
J4 LINE OUT
J2 HEAD PHONES
W101 RED WHT
CP101 RED BLK YEL
CP103
CP102 RED WHT BLK YEL
CP105
CS107
CS106
CP109
CP108
BLU YEL
(Lch)
CERAMIC SPEAKER (TWEETER) 7/8" (2.2cm) 1kΩ
PM DYNAMIC SPEAKER 5 1/2" (14cm) 2.7Ω (WOOFER)
(Rch)
CERAMIC SPEAKER (TWEETER) 7/8" (2.2cm) 1kΩ
PM DYNAMIC SPEAKER 5 1/2" (14cm) 2.7Ω (WOOFER)
S110 PLAY SWITCH
BLU RED WHT BLK YEL BRN
S109 FWD/REV DET.
S108 FF/REW SWITCH
MOTOR
BLK YEL
S107 MOTOR SWITCH
RED WHT
R/P HEAD, ERASE HEAD
BLK BLU SLD WHT RED
CS901
YEL BLU
S801 LASER ON/OFF SWITCH
S802 OPEN/CLOSE SWITCH
S501
S502 S503
CP502
S504
CS501
BLU YEL
S505
CP106
BLU YEL
RED WHT
BLU WHT
BATTERY 15V (UM-1 x10)
CP110
CP111
J3 AC/DC IN
T700 POWER TRANSFORMER
TELESCOPIC ANTENNA
FM MODE/B.P.
BAND
W2
S1
S2
W1

MEASUREMENTS AND ADJUSTMENTS

■ ALIGNMENT INSTRUCTION

READ CAREFULLY BEFORE ATTEMPTING ALIGNMENT	
1. Set volume control to maximum. 2. Set balance control to center. 3. Set tape selector switch to normal. 4. Set band switch to AM or FM. 5. Set function selector to radio and tape. 6. Set dolby NR switch to out.	7. Set FM mode /B.P switch to stereo. 8. Set power switch to on. 9. Set power source voltage to 15V DC. 10. Output of signal generator should be no higher than necessary to obtain an output reading.

■ AM ALIGNMENT

	BAND	SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (ELECTRONICS VOLTMETER or SCOPE)	ADJUSTMENT	REMARKS
		CONNECTIONS	FREQUENCY				
		AM-IF ALIGNMENT					
(1)	AM	Fashion loop of several turns of wire and radiate signal into loop of receiver.	455kHz 30% Mod. at 400Hz	Point of non-interference. (on/about 600kHz)	Output meter across voice coil.	T2 (AM IFT)	Adjust for maximum output.
		AM-RF ALIGNMENT					
(2)	AM	〃	511kHz	Tuning capacitor fully closed.	〃	L6 (AM OSC Coil)	〃
(3)	AM	〃	1,650kHz	Tuning capacitor fully open.	〃	CT4 (AM OSC Trimmer)	〃
(4)	AM	〃	550kHz	Tune to signal.	〃	(＊1) L3 (AM ANT Coil)	Adjust for maximum output. Adjust L3 by moving coil bobbin along ferrite core.
(5)	AM	〃	1,500kHz	〃	〃	CT3 (AM ANT Trimmer)	Adjust for maximum output. Repeat steps (2)～(5).

(＊1) Cement antenna bobbin with wax after completing alignment.

■ FM ALIGNMENT

	BAND	SIGNAL GENERATOR or SWEEP GENERATOR		RADIO DIAL SETTING	INDICATOR (ELECTRONICS VOLTMETER or SCOPE)	ADJUSTMENT	REMARKS
		CONNECTIONS	FREQUENCY				
		FM-IF ALIGNMENT					
(1)	FM	High side thru. 0.001μF to test point ③. Negative side to test point ②.	10.7MHz (SWP.)	Point of non-interference. (on/about 90MHz)	Connect vert. amp. of scope to test point ④. Negative side to test point ⑤.	T1 (FM 1st IFT)	Adjust for maximum amplitude. (Refer to fig. 1.)
(2)	FM	〃	〃	〃	〃	T3 (FM 2nd IFT)	Adjust for maximum amplitude. (Refer to fig. 2.)
		FM-RF ALIGNMENT					
(3)	FM	Connect to test point ① through FM dummy antenna. Negative side to test point ②.	86.2MHz	Variable capacitor fully closed.	Output meter across voice coil.	L2 (FM OSC Coil)	(＊2) Adjust for maximum output.
(4)	FM		109.2MHz	Variable capacitor fully open.	〃	CT2 (FM OSC Trimmer)	〃
(5)	FM		109.2MHz	〃	〃	CT1 (FM ANT Trimmer)	(＊2) Adjust for maximum output. Repeat steps (3)～(5).

(＊2) Three output responses will be present; proper tuning is the center frequency.

■ SEPARATION ALIGNMENT

ITEM	FM SIGNAL GENERATOR SOURCE CONNECTION	EQUIPMENT CONNECTION ELECTRONIC COUNTER	ADJUSTMENT	SPECIFICATION	REMARKS
Adjustment of pilot signal.	98MHz, 60dB (CW) Connect to test point ① through FM dummy antenna. Negative side to test point ②.	⑥...(+) ⑦...(−)	VR1	19kHz	Adjust VR1, for 19kHz ($^{+50}_{-150}$Hz) reading on electronics counter.

■ TAPE ADJUSTMENT

	ITEM	INPUT	MEASUREMENT POINT	SPECIFICATION	ADJUSTMENT POINT	REMARKS
(1)	Azimuth	QZZCFM (8kHz, −20dB)	LINE OUT (AC voltage & Oscilloscope)	Maximum output	Azimuth screw (FWD, REV)	Playback mode FM Mode/B.P→STEREO/II (Refer to fig. 3.)
(2)	Tape speed	QZZCWAT (3kHz)	LINE OUT	3000±90Hz	Motor Volume	Playback mode (Refer to fig. 4.)
(3)	Playback gain	QZZCFM (315Hz, 0dB)	LINE OUT	0.39±0.05V	VR101 (L) VR201 (R)	Playback mode
(4)	Rec bias current	——	㉑...(+) ⑳...(−)	Tape selector Normal...9.0±0.3mV Metal/CrO_2...13.0±1.0mV	VR301	FM Mode/B.P→Stereo/II Tape selector→Normal Function selector→Radio (AM) (Refer to fig. 5.)
(5)	Bias oscillation frequency	——	㉑...(+) ⑳...(−)	66±2kHz	L301	〃
(6)	R/P gain	LINE IN (1kHz, −14dB)	LINE OUT	Output...0±1dB	VR102 (L) VR202 (R)	1. Apply −14dB 1kHz signal from the line input terminal. 2. Measure the output voltage of line output terminals. 3. Then, with the unit in the record mode and, record the signal. 4. Playback the recorded part, and measure the output voltage of line output terminals. 5. Compare the output voltage measured in items 3 and 6, and adjust so there is no difference in the level. (Adjust to obtain 0±1dB.)

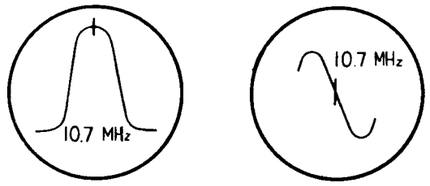
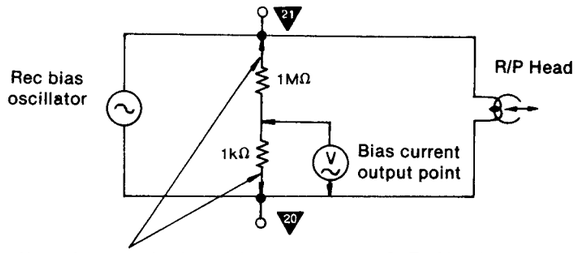


Fig. 1

Fig. 2



Keep these cords short. (Lien capacitance: 3pF of less)

- In order not to influence the bias osillation, divide the voltage with 1MΩ and 1kΩ resistors, and measure the voltage across the 1kΩ resistor.

Fig. 5

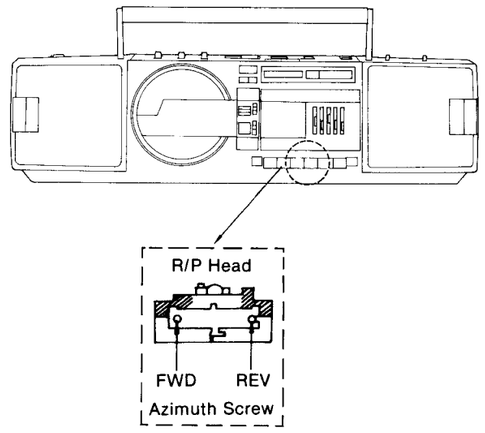


Fig. 3

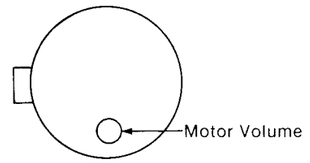


Fig. 4

■ TAPE ADJUSTMENT

	ITEM	INPUT	MEASUREMENT POINT	SPECIFICATION	ADJUSTMENT POINT	REMARKS
(1)	Azimuth	QZZCFM (8kHz, −20dB)	LINE OUT (AC voltage & Oscilloscope)	Maximum output	Azimuth screw (FWD, REV)	Playback mode FM Mode/B.P→STEREO/II (Refer to fig. 3.)
(2)	Tape speed	QZZCWAT (3kHz)	LINE OUT	3000±90Hz	Motor Volume	Playback mode (Refer to fig. 4.)
(3)	Playback gain	QZZCFM (315Hz, 0dB)	LINE OUT	0.39±0.05V	VR101 (L) VR201 (R)	Playback mode
(4)	Rec bias current	——	㉑...(+) ⑳...(−)	Tape selector Normal...9.0±0.3mV Metal/CrO_2...13.0±1.0mV	VR301	FM Mode/B.P→Stereo/II Tape selector→Normal Function selector→Radio (AM) (Refer to fig. 5.)
(5)	Bias oscillation frequency	——	㉑...(+) ⑳...(−)	66±2kHz	L301	〃
(6)	R/P gain	LINE IN (1kHz, −14dB)	LINE OUT	Output...0±1dB	VR102 (L) VR202 (R)	1. Apply −14dB 1kHz signal from the line input terminal. 2. Measure the output voltage of line output terminals. 3. Then, with the unit in the record mode and, record the signal. 4. Playback the recorded part, and measure the output voltage of line output terminals. 5. Compare the output voltage measured in items 3 and 6, and adjust so there is no difference in the level. (Adjust to obtain 0±1dB.)

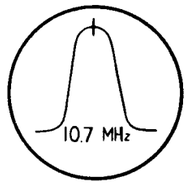


Fig. 1

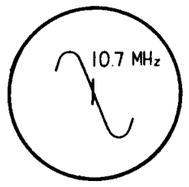
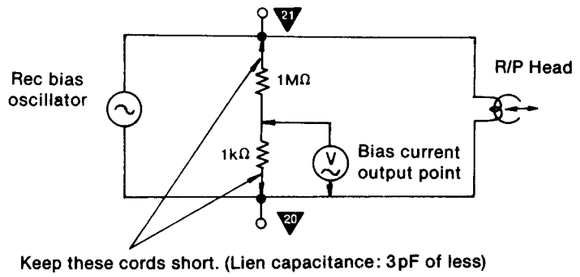


Fig. 2



Keep these cords short. (Lien capacitance: 3pF of less)

- In order not to influence the bias osillation, divide the voltage with 1MΩ and 1kΩ resistors, and measure the voltage across the 1kΩ resistor.

Fig. 5

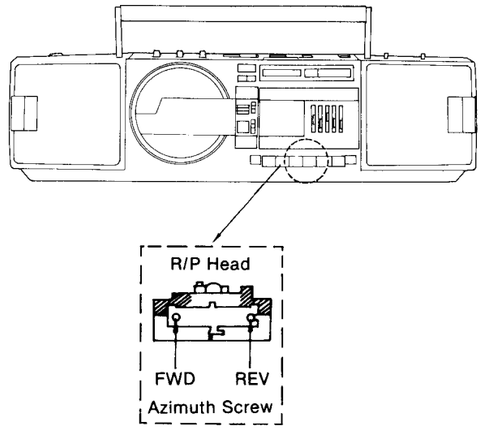


Fig. 3

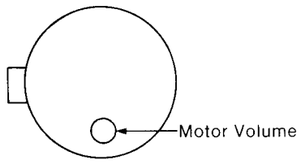


Fig. 4

■ ALIGMENT POINT

* Please refer to Circuit Board and Wiring Connection Diagram for test point locations.

(TUNER P.C.B)

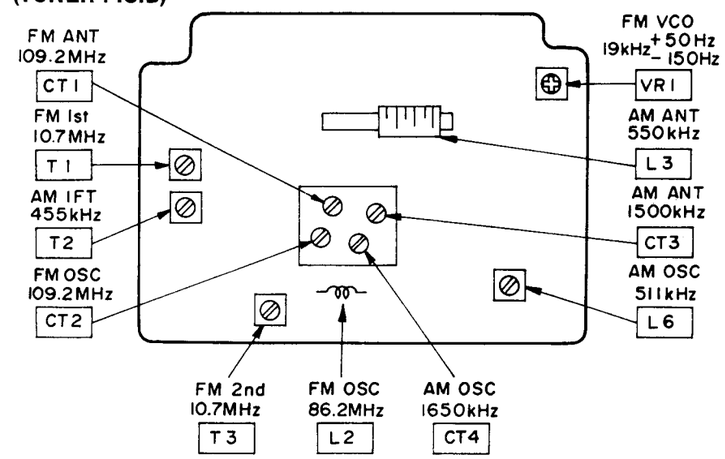


Fig. 6

(MAIN P.C.B)

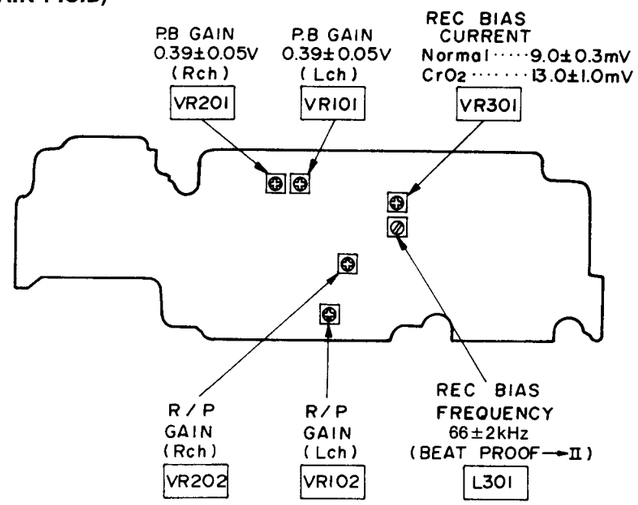


Fig. 7

(REAR CABINET BOTTOM VIEW)

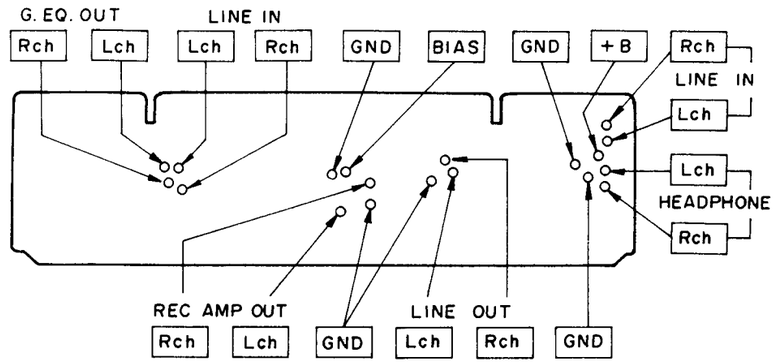


Fig. 8

■ On Adjusting the CD Player Unit

Please follow the procedure below for continuity checks, adjustment, or measurement of the CD player.

Notes:

(1) Even if during operation, the laser diode does not emit laser if the disc holder cover is not closed and safety interlock switches S801 and S802 are not on.

(2) When the disc holder cover is closed and safety interlock switches S801 and S802 are on, never look at the lens of laser pickup.

Note: To adjust the CD player section, see the adjustment procedure, order No. HAD8610743C1, for the portable CD player model SL-NP10/RX-FD80. However, the disassembly procedure is different, so when performing continuity checks, repairs, or adjustment, disassemble according to the procedure below.

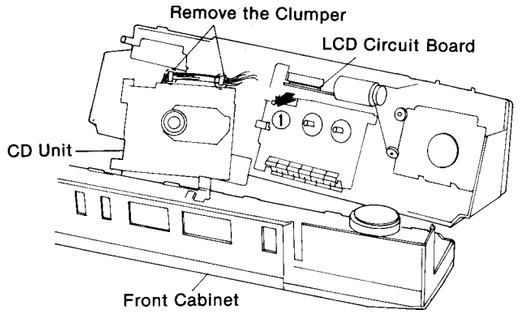


Fig. 1

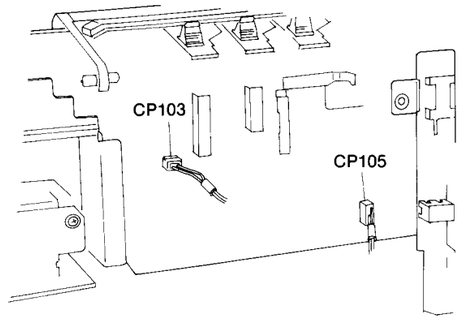


Fig. 2

1. Following the order of removal in the disassembly procedure step 1~6, remove the front cabinet. (Fig. 1)
2. Pull out the LCD circuit board in the direction of the arrow, and remove the CD unit. (Fig. 1)
3. Disconnect the CP103 (3 pin) and CP105 (5 pin) sockets. (Fig. 2)
4. Remove the two lead clamps and remove the lead wires from the holder. (Fig. 1)

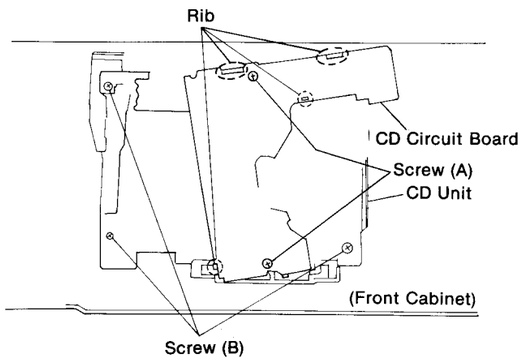


Fig. 3

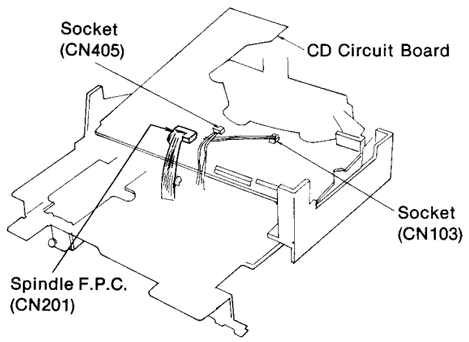


Fig. 4

5. Remove the two screws (A). (Fig. 3)
6. Attach the front cabinet to the CD unit, and secure it in place temporarily with three screws (B) used to attach the speakers. (Fig. 3)
7. Undo the three lugs so the CD circuit board becomes loose. (Fig. 3)
8. Remove the spindle F.P.C. (CN201) and the CN405 (2 pin) socket and connect with the F.P.C. extension cord (SZZP1075C) and the extension connector (SZZ1076C) respectively. (Fig. 4)
9. Disconnect the CN103 (2 pin) socket, pass the wires positioned under the circuit board over the top of the circuit board, and reconnect the CN103 socket. (Fig. 4)

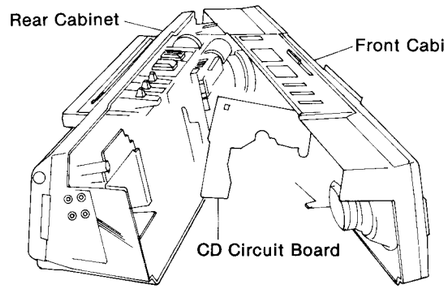


Fig. 5

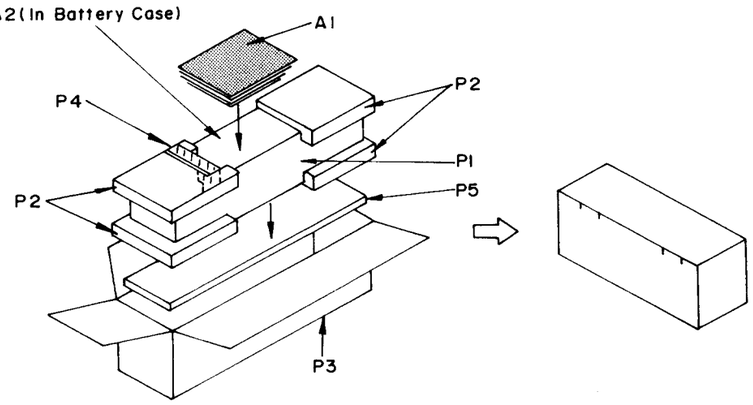
10. After connecting the CN103 socket, set the corner of the front cabinet on the corner of the rear cabinet. (Fig. 5)
(This CD player is assembled at a 72° angle. If it is adjusted in any other angle or when laying flat, the laser pickup will be displaced, preventing normal operation.)

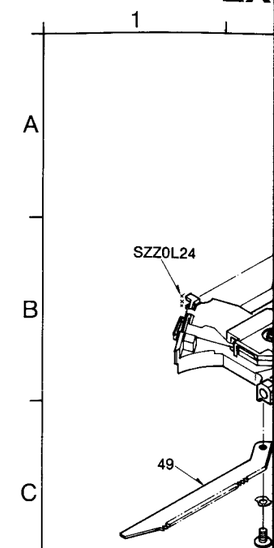
RX-FD80 IMPORTANCE PARTS

When replacing the following components, use only manufacturer's specified parts in the shaded area of cabinet parts location and below figure.

Parts Name	Remarks
C.D. Unit	
Operating Instructions	A1
Certification Label	K70-4
Front Cabinet Ass'y	K75
CD Compartment Cover	K77
Rear Cabinet Ass'y	K70

ACCESSARY AND PACKING MATERIALS





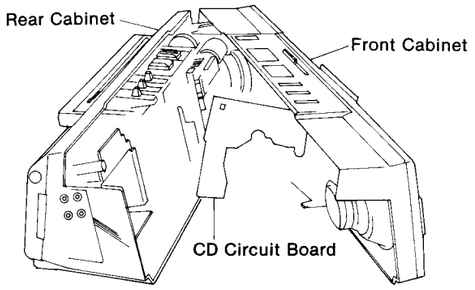


Fig. 5

10. After connecting the CN103 socket, set the corner of the front cabinet on the corner of the rear cabinet. (Fig. 5)
(This CD player is assembled at a 72° angle. If it is adjusted in any other angle or when laying flat, the laser pickup will be displaced, preventing normal operation.)

RX-FD80 IMPORTANCE PARTS

When replacing the following components, use only manufacturer's specified parts in the shaded area of cabinet parts location and below figure.

Parts Name	Remarks
C.D. Unit	
Operating Instructions	A1
Certification Label	K70-4
Front Cabinet Ass'y	K75
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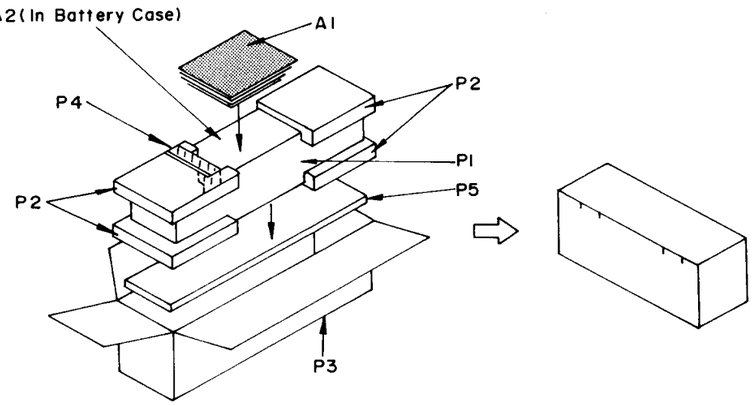
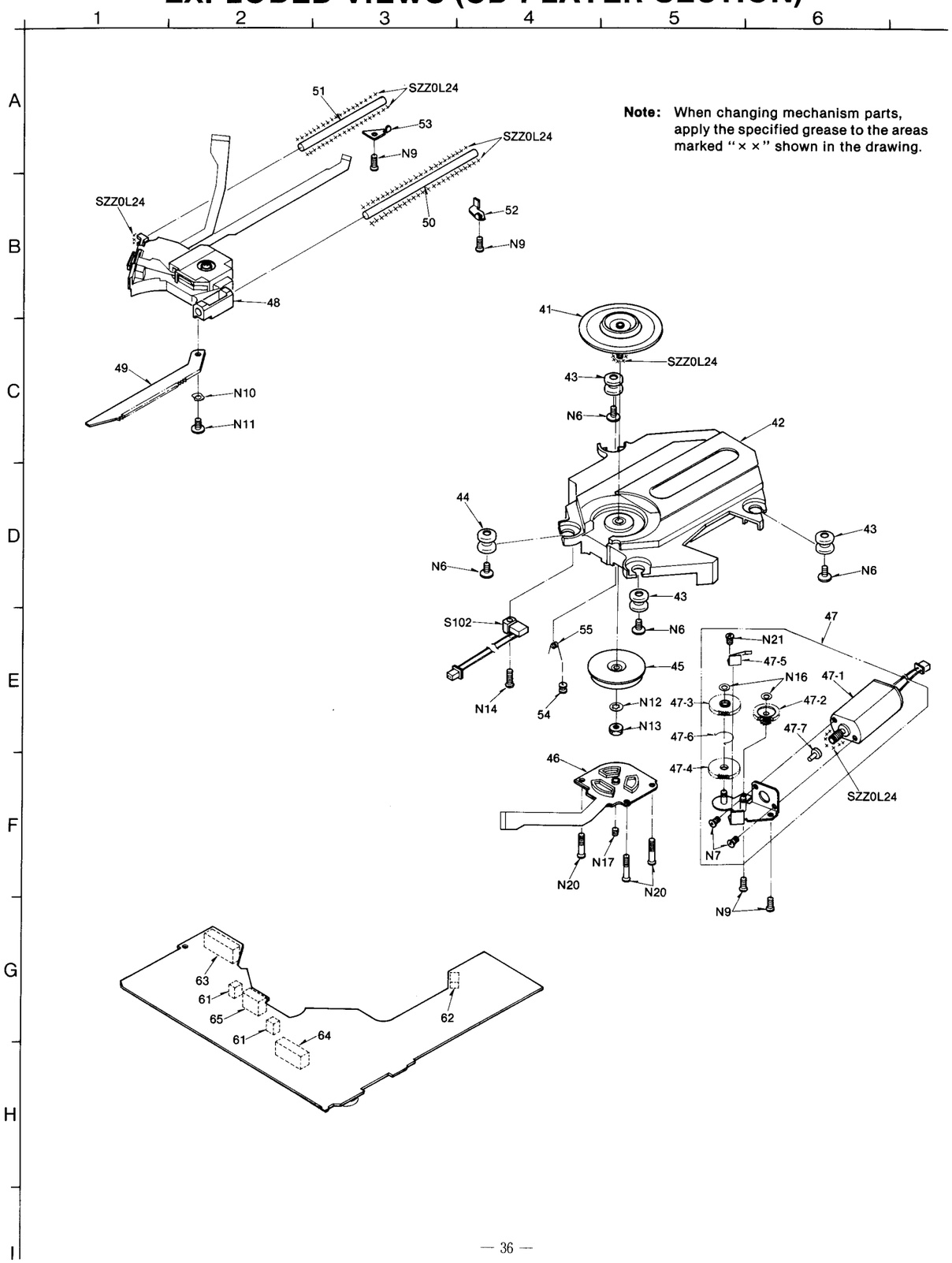
ACCESSARY AND PACKING MATERIALS



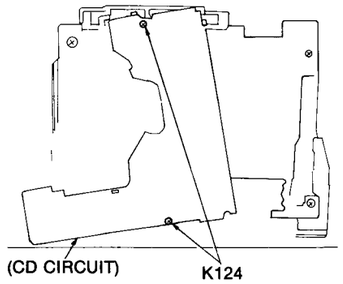
EXPLODED VIEWS (CD PLAYER SECTION)

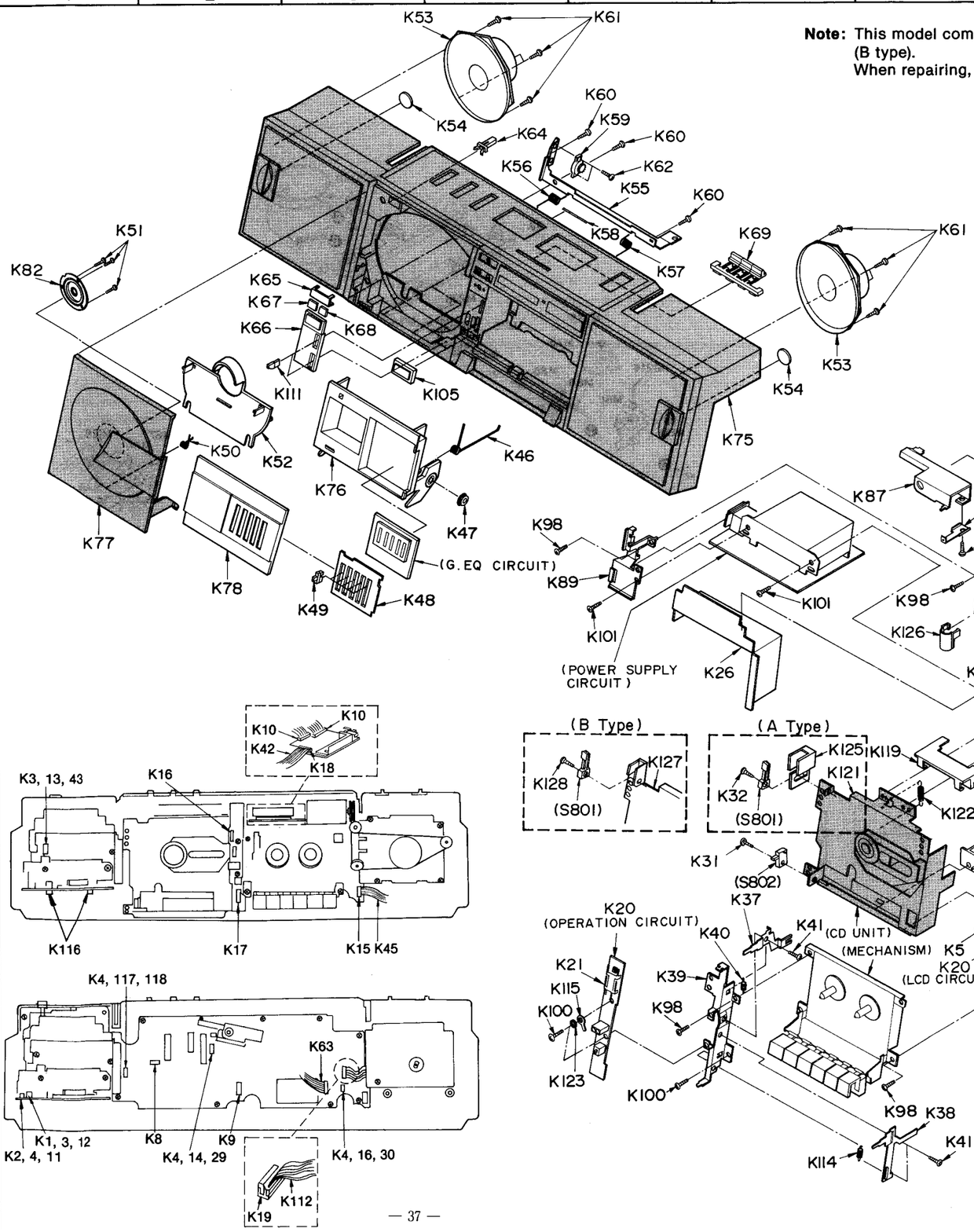


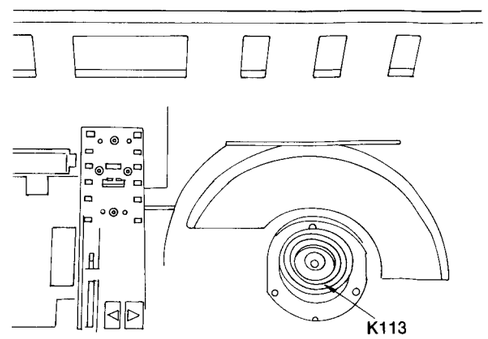
Note: When changing mechanism parts, apply the specified grease to the areas marked "× ×" shown in the drawing.

CABINET PARTS LOCATION

Note: This model comes with a leaf switch holder (A type) or without a leaf switch holder (B type).
When repairing, refer to the respective cabinet parts location.

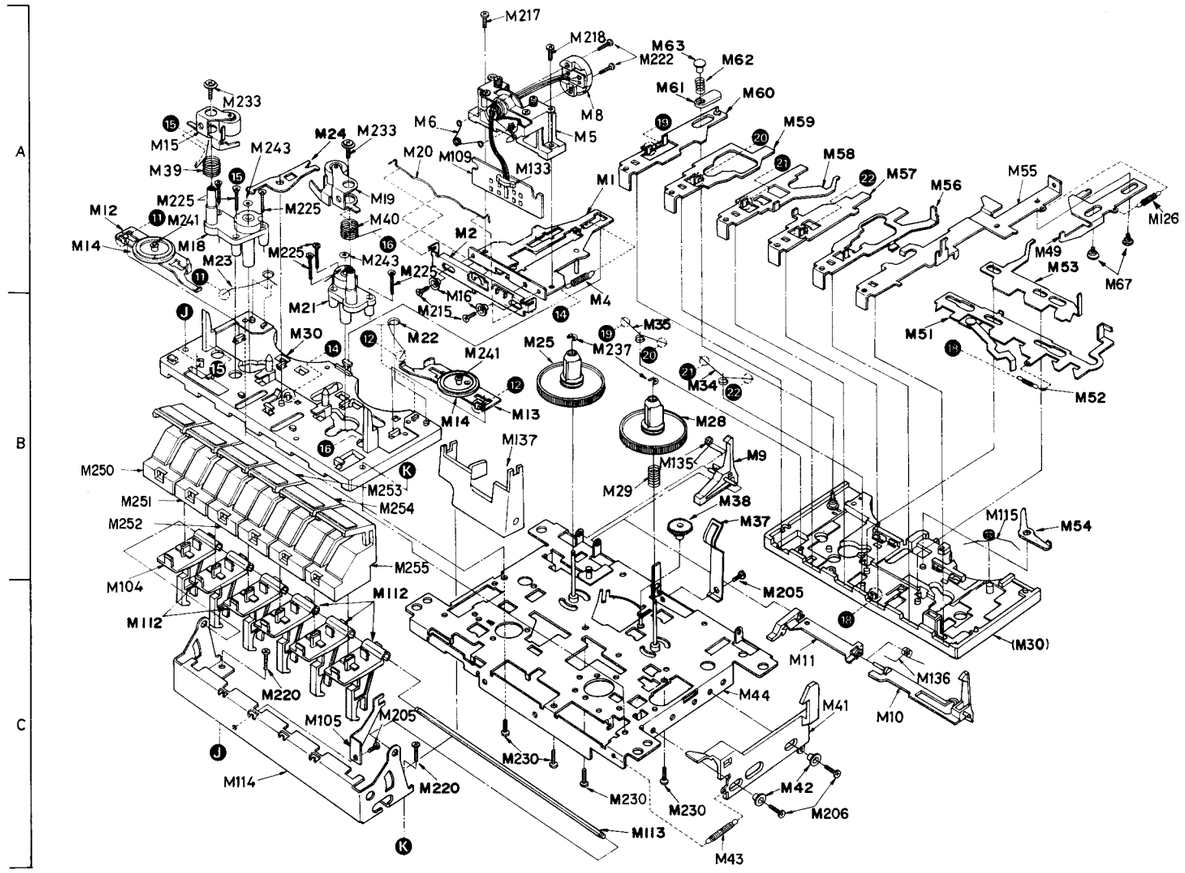






MECHANISM PARTS LOCATION

(TOP VIEWS)



| | | |

■ REPLACEMENT PARTS LIST

Notes:

1. The letter in the square bracket after the part name indecates the color of the part.
   [S]...Silver

Ref. No.	Part No.	Part Name & Description
	MECHANICAL PARTS	
M1	**RFU104ZA**	Head Panel Ass'y
M2	**RFY736ZA**	Lever, C.H.P
M4	**RFS525Z**	Spring, Head Panel Ass'y
M5	**RFU105ZA**	Head Base Ass'y
M6	**RFS665ZA**	Spring, Turn Over
M8	**1JH0024ZA**	R/P Head Ass'y
M9	**RFY737ZA**	Lever, Erase Safety (FWD)
M10	**RFY738ZA**	Lever, Erase Safety (REV) (A)
M11	**RFY739ZA**	Lever, Erase Safety (REV) (B)
M12	**RFD203Z**	Trigger Roller Plate Ass'y (REV)
M13	**RFD204Z**	Trigger Roller Plate Ass'y (FWD)
M14	**RFK15Z**	Trigger Roller Ass'y
M15	**RFR41ZA**	Pinch Roller Arm Ass'y (REV)
M16	**RFX149ZA**	Collar, C.H.P Lever
M18	**RFD300ZA**	F.L. Metal Ass'y (REV)
M19	**RFR42ZA**	Pinch Roller Arm Ass'y (FWD)
M20	**RFS666ZA**	Spring, Pinch Roller Arm Ass'y
M21	**RFD301ZA**	F.L. Metal Ass'y (FWD)
M22	**RFS503ZA**	Spring, Trigger Roller Plate Ass'y (FWD)
M23	**RFS502Z**	Spring, Trigger Roller Plate Ass'y (REV)
M24	**RFY502Z**	Lever, Head Base Control
M25	**RFJ63ZA**	Reel Table Ass'y (REV)
M28	**RFJ64ZA**	Reel Table Ass'y (FWD)
M29	**RFS546Z**	Spring, Back Tension
M30	**RFU58Z**	Button Base
M34	**RFS547Z**	Spring (A), Button Lever
M35	**RFS667ZA**	Spring (B), Button Lever
M37	**RFS509ZA**	Spring, Cassette Pressure
M38	**RFQ94ZA**	Gear, FF
M39	**RFS668ZA**	Spring, Pinch Roller Arm (REV)
M40	**RFS669ZA**	Spring, Pinch Roller Arm (FWD)
M41	**RFY740ZA**	Lever, Eject Slide
M42	**RFX120Z**	Collar, Eject Slide Lever
M43	**RFS670ZA**	Spring, Eject Slide Lever
M44	**RFU108ZA**	Mechanism Base Ass'y
M45	**RFY741ZA**	Slide Lever
M46	**RFS671ZA**	Spring, Gear
M47	**RFX150ZA**	Collar (A)
M48	**RFX151ZA**	Collar (B)
M49	**RFS742ZA**	Lever, Rec Sensor
M51	**RFY558Z**	Plate, Pressure Button Operation
M52	**RFS672ZA**	Spring, Pressure Button Operation Plate
M53	**RFY526Z**	Plate, Switch Operation
M54	**RFY559Z**	Lever, Rew
M55	**RFS671ZA**	Lever, Rec Button
M56	**RFY743ZA**	Lever, Play Button
M57	**RFY509Z**	Lever, Rew Button
M58	**RFY510Z**	Lever, FF Button
M59	**RFY511Z**	Lever, Stop Button
M60	**RFY512Z**	Lever Ass'y, Pause Button
M61	**RFY513Z**	Lever, Pause
M62	**RFS512Z**	Spring, Pause Lever
M63	**RFX122Z**	Stopper, Pause Lever
M64	**RFY744ZA**	Lever, Mode Change
M65	**RFY745ZA**	Double Sided Sensing Plate
M66	**RFS661ZA**	Spring, Double Sided Sensing Plate
M67	**RFE332ZA**	Screw (Rec Sensor Lever, etc. M'tg)
M68	**RFK21ZA**	RF Clutch Ass'y
M69	**RFS660ZA**	Spring, RF Clutch Ass'y
M70	**RFB59Z**	Belt, FF
M71	**RFS514Z**	Spring, Lift Arm Ass'y
M72	**RFY516Z**	Lift Arm Ass'y
M73	**RFS673ZA**	Spring, Main Trigger Arm Ass'y
M74	**RFY746ZA**	Main Trigger Arm Ass'y (A)
M75	**RFG96ZA**	Gear, Main
M76	**RFS674ZA**	Spring, Main Trigger Arm (B)
M77	**RFY747ZA**	Main Trigger Arm (B)
M78	**RFG97ZA**	Gear, Change
M79	**RFG98ZA**	Gear, Head Plate Moving
M80	**RFS517Z**	Spring, Trigger Arm
M81	**RFX148ZA**	Collar, Trigger Arm
M82	**RFY519Z**	Trigger Arm Ass'y
M83	**RFY520Z**	Arm, Trigger
M84	**RFX123Z**	Collar, Trigger Arm
M85	**RFY521Z**	Play Moving Arm Ass'y
M86	**RFS518Z**	Spring Play Moving Arm Ass'y
M87	**RFG79Z**	Cam Gear Plate Ass'y
M88	**RFS553Z**	Spring, Detector Plate
M89	**RFS520Z**	Spring, Cam Gear Plate
M90	**RFG78Z**	Gear, Cam
M91	**RFQ50ZA**	Pully
M92	**RFB76ZA**	Belt (A), Main
M93	**RFY522Z**	Lever, RF
M94	**RFE211Z**	Plate, Detector
M95	**RFY745ZA**	Lever, Control
M96	**RFS554Z**	Spring, Control Lever
M97	**RFY746ZA**	Lever, Stop
M98	**RFY729ZA**	Double Sided Function Lever
M99	**RFS662ZA**	Spring, Function Lever
M100	**RFF47ZA**	Flywheel Ass'y, Pulley Capstan
M101	**RFF48ZA**	Flywheel Ass'y, Gear Capstan
M102	**RFB52Z**	Belt (B), Main
M104	**RFY524Z**	Lever, Operation
M105	**RFD297ZA**	Shaft, Stopper
M106	**RFE213Z**	Screw (Motor Ass'y M'tg)
M107	**RFI32Z**	Cushion, Motor Ass'y
M108	**RFD302ZA**	Bracket, Motor
M109	**RFT18ZA**	Relay Base Plate
M110	**RFM104ZA**	Motor Ass'y
M112	**RFY747ZA**	Lever, Operation
M113	**RFY525Z**	Shaft, Button Lever
M114	**RFD206Z**	Frame, Button
M115	**RFS675ZA**	Spring, Rec Button Lever
M120	**RFS676ZA**	Spring, Lift Arm Ass'y
M121	**RFY748ZA**	Rec Change Lever
M122	**RFS677ZA**	Spring, Rec Change Lever, Eject Slide Lever
M123	**RFY749ZA**	Lever, M Kick
M124	**RFX152ZA**	Collar, M Kick Lever
M125	**RFX117Z**	Collar, Rec Change Lever
M126	**RFS678ZA**	Spring, Rec Button Lever
M127	**RFY750ZA**	Lever (H), Change
M128	**RFS679ZA**	Spring, Change Lever (H)
M129	**RFY751ZA**	Lever (J), Change
M130	**RFS680ZA**	Spring, Change Lever (J)
M131	**RFY752ZA**	Lever (K), Change
M132	**RFS681ZA**	Spring, Change Lever (K)
M133	**RFE336ZA**	Cord Clamper
M134	**RFS657ZA**	Spring, Change Lever
M135	**RFS682ZA**	Spring, Erase Safety Lever (FWD)
M136	**RFS683ZA**	Spring, Erase Safety Lever (REV)
M137	**RFD303ZA**	Angle, Button Shaft
M138	**RFY755ZA**	Lever, Switch
M139	**RFX153ZA**	Collar, Switch Lever
M140	**RFS685ZA**	Spring, Switch Lever
M200	**RFE229ZA**	Screw ⊕2×3 (Rec Change Lever, etc. M'tg)
M205	**XTN2+3B**	Screw ⊕2×3 (Cassette Holder Spring, etc. M'tg)
M206	**RFE221Z**	Screw ⊕2×5 (Eject Slide Lever M'tg)
M215	**RFE337ZA**	Screw ⊕1.7×3 (C.H.P Lever M'tg)
M216	**XQN2+35**	Screw ⊕2×3.5 (Trigger Arm M'tg)
M217	**RFE338ZA**	Screw ⊕2×4.5 (Head Base Ass'y M'tg)
M218	**RFE339ZA**	Screw ⊕2×4.5 (Head Base Ass'y M'tg)
M219	**RFE98ZA**	Screw ⊕2×6 (Slide Lever M'tg)
M220	**XQN2+7**	Screw ⊕2×8 (Button Flame M'tg)
M222	**RFE340ZA**	Screw ⊕1.6×5.2 (Head Ass'y M'tg)
M225	**RFE344ZA**	Screw ⊕2×8.5 (F.L. Metal Ass'y M'tg)
M227	**RFE345ZA**	Screw ⊕2×3.5 (Rec Change Lever M'tg)
M228	**RFE346ZA**	Screw ⊕2.3×5 (Rec Change Lever M'tg)
M230	**RFE222ZA**	Screw ⊕2×6 (Button Base M'tg)
M232	**RFE346ZA**	Screw ⊕2×6 (Slide Lever M'tg)
M233	**RFE327ZA**	Screw ⊕2×6 (Pinch Roller Arm Ass'y M'tg)
M235	**XUC2FT**	E. Ring (Head Plate Moving Gear, etc. M'tg)
M236	**XUC15FT**	E. Ring (Double Sided Function Lever M'tg)
M237	**RFE133Z**	E. Ring (Reel Table Ass'y M'tg)
M238	**RFE330ZA**	E. Ring (Change Gear M'tg)
M240	**RFE341ZA**	Washer φ2.1, Detector Plate, etc. M'tg
M241	**RFE216Z**	Washer φ1.2, Cam Gear etc. M'tg
M242	**RFE342ZA**	Washer φ2, Flywheel Ass'y
M243	**RFE343ZA**	Washer φ1.55, Flywheel M'tg
M250	**RBC1100ZA**	Button, Record Ⓢ
M251	**RBC1101ZA**	Button, Playback Ⓢ
M252	**RBC1102ZA**	Button, Rewind Ⓢ
M253	**RBC1103ZA**	Button, FF Ⓢ
M254	**RBC1104ZA**	Button, Stop/Eject Ⓢ
M255	**RBC1105ZA**	Button, Pause Ⓢ

■ REPLACEMENT PARTS LIST

Notes:

1. Important safety notice.
   Components identified by ⚠ mark have special characteristics important for safety.
   When replacing any of these components, use only manufacture's specified parts.
2. The letter in the equare bracket after the part name indicates the color of the part.
   [K]...Black, [W]...White, [S]...Silver.

Ref. No.	Part No.	Part Name & Description
	CABINET PARTS	
K 1	**RJS2L4Z**	Socket (2 Pin, CS110)
K 2	**RJS2L3Z**	Socket (2 Pin, CS111)
K 3	**RJT707Z**	Terminal, Socket
K 4	**RJT807Z**	Terminal, Socket
K 5	**EDD062C73A3P**	LCD
K 6	**RJM164Z**	Built-in Microphone
K 7	**QTF1054**	Fuse Holder ⚠
K 8	**EMCS0350Z**	Plug (3 Pin, CP103)
K 9	**EMCS0550Z**	Plug (5 Pin, CP105)
K 10	**EMCS1250Z**	Plug (12 Pin, CP503, 504)
K 11	**RJP2G18Z**	Plug (2 Pin, CP111)
K 12	**RJP2G4Y**	Plug (2 Pin, CP110)
K 13	**RJP3G4Y**	Plug (3 Pin, CP101)
K 14	**RJP5G18Z**	Plug (5 Pin, CP104)
K 15	**RJP6G18ZA**	Plug (6 Pin, CP108)
K 16	**RJP6G20Z**	Plug (6 Pin, CP109, 502)
K 17	**RJP7G18ZA**	Plug (7 Pin, CP106)
K 18	**RJP8G18Z**	Plug (8 Pin, CP501)
K 19	**RJS7T5ZA**	Socket (7 Pin, CS107)
K 20	**RUP2241ZAN**	Circuit Board, Operation/Battery/LCD/Power Source
K 21	**RUS715ZA**	Spring, Operation
K 22	**RJC511Z**	Terminal, Battery (−)
K 23	**RME439ZA**	LCD Holder
K 24	**RMC1117ZA**	Shield Plate
K 25	**RMC1118ZA**	Shield Plate
K 26	**RMY233ZA**	Heat Sink (for IC304)
K 27	**XTW3+6F**	Screw ⊕3×6 (Heat Sink M'tg)
K 28	**XTW3+8F**	Screw ⊕3×8 (Heat Sink M'tg)
K 29	**RJS5L4Z**	Socket (5 Pin, CS104)
K 30	**RJS6L4Z**	Socket (6 Pin, CS109)
K 31	**XTV2+6F**	Screw ⊕2×6 (Micro Switch M'tg)
K 32	**XTV26+8F**	Screw ⊕2.6×8 (Leaf Switch M'tg)
K 33	**RDS4090A**	Spring, Dial Drum
K 34	**RDZ05Z**	Cord, Dial Drum
K 35	**RMC1119ZA**	Shield Plate
K 36	**RDD392ZB**	Drum, Dial
K 37	**RUB477ZB**	Lever, Mode
K 38	**RUB478ZA**	Lever, Direction
K 39	**RUL930ZA**	Chassis, Direction
K 40	**QBT2047**	Spring, Direction Lever
K 41	**RHE5133ZA**	Screw (Mode Lever, etc. M'tg)
K 42	**1JSAFD80ZA-4**	Flat Cable
K 43	**RJS3L3Z**	Socket (3 Pin, CS101)
K 45	**2JSAFD80ZA**	Lead Wire Ass'y
K 46	**RUW112ZA**	Spring, Cassette Compartment Ass'y
K 47	**RDG5709Y**	Gear, Cassette Compartment Ass'y
K 48	**RKE553Z**	Cover, EQ [K]
K 49	**RBD405YA-1**	Knob, EQ [S]
K 50	**RUW111ZA**	Spring, Disc Holder Ass'y
K 51	**XQN2+AJ4FN**	Screw ⊕2×4 (Magnet Ass'y M'tg)
K 52	**RKE593ZA-0**	Holder CD [K]
K 53	**EAS14P61A**	Speaker, Woofer
K 54	**RAF04E4A01**	Speaker, Tweeter
K 55	**RUL932ZA**	Angle, Disc Holder Ass'y
K 56	**RUS717ZA**	Spring, Disc Holder Ass'y
K 57	**RUS718ZA**	Spring, Disc Holder Ass'y
K 58	**RDF3106ZB**	Shaft, Disc Holder Ass'y
K 59	**RDG5024Z**	Gear, Disc Holder Ass'y
K 60	**XTV3+10G**	Screw (Disc Holder Ass'y Angle, etc. M'tg)
K 61	**XTW3+10F**	Screw (Speaker M'tg)
K 62	**XQN2+A4**	Screw (Disc Holder Ass'y Gear M'tg)
K 63	**1JSAFD80ZA-3**	Lead Wire Ass'y
K 64	**RHR3135ZA**	Lock Switch [K]
K 65	**RBC1106ZA-0**	Button, CD Play [S]
K 66	**RBC1107ZA-0**	Button, CD Stop [S]
K 67	**RBC1108ZA-0**	Button, CD Skip (REV) [S]
K 68	**RBC1109ZA-0**	Button, CD Skip (FWD) [S]
K 69	**RBC1111ZA-0**	Button, CD Memory [S]
K 70	**RYFXFD80MH**	Rear Cabinet Ass'y [K]
K 70-1	**RJT779YA**	Terminal, Antenna
K 70-2	**RJC936Z**	Spring, Battery (+)
K 70-3	**RHG349ZA**	Rubber, Cabinet [K]
K 70-4	**RQT6032YA**	Label
K 71	**XEARR225DAY**	Telescopic Antenna
K 72	**RMD1144ZC**	Bracket, Cabinet M'tg
K 73	**XYN3+C15FZ**	Screw ⊕3×15 (Telescopic Antenna M'tg)
K 74	**RYEXFD80J**	Volume Slider Ass'y
K 75	**RYMXFD80MH**	Front Cabinet Ass'y [K]
K 76	**RYQ1XFD80J**	Cassette Compartment Ass'y [K]
K 77	**RYQ2XFD80J**	Disc Holder Ass'y [K]
K 78	**RYPXFD80MH**	Cassette Panel Ass'y
K 79	**RYTXFD80J**	Tuning Knob Ass'y [S]
K 80	**RYDXFD80MH**	Dial Scal Ass'y
K 81	**RZAXFD80J**	Dial Shassis Ass'y
K 82	**RZEXFD80J**	Magnet Ass'y
K 83	**XTC3+10CFZ**	Screw ⊕3×10 (Handle M'tg)
K 84	**RKX376ZA-0**	Arm, Handle
K 85	**RKX377ZA-0**	Handle [K]
K 86	**XBA1C12NU100**	Fuse ⚠
K 87	**RUB9025ZA**	Lever, R/P
K 89	**RUL931ZB**	Angle, Jack Pressure
K 90	**RUW117ZA**	Spring, Shield Plate
K 91	**RME442ZA-0**	Holder, Jack [K]
K 92	**RMX340ZA**	Angle, Mechanism
K 93	**RMC1128ZA**	Shield Plate
K 94	**XSN3+4**	Screw ⊕3×4 (Mechanism Angle)
K 95	**XSN3+8FZ**	Screw ⊕3×8 (Rear Cabinet M'tg)
K 96	**XYN26+C5**	Screw ⊕2.6×5 (Dial Drum M'tg)
K 97	**XTN3+40G**	Screw ⊕3×40 (Rear Cabinet M'tg)
K 98	**XTV3+12G**	Screw ⊕3×12 (P.C.B, Direction Angle, Jack Pressure Angel, etc. M'tg)
K 99	**XTV3+16G**	Screw ⊕3×16 (Dial Chassis M'tg)
K 100	**XTV3+6F**	Screw ⊕3×6 (Operation Circuit Board M'tg)
K 101	**XTW3+12Q**	Screw ⊕3×12 (Power Transformer, Jack Pressure Angle M'tg)
K 102	**RHR1346ZA**	Lever, CD Control
K 103	**RKK326ZA-0**	Battery Compartment [K]
K 104	**RKE592ZA-0**	Holder, Switch Knob [K]
K 105	**RBC1110ZA-0**	Button, Synchro [S]
K 106	**RBC709YA-0**	Button, Power [K]
K 107	**RBD470YA**	Knob, Mode [K]
K 108	**RBD470ZA-0**	Knob, Band Mode [K]
K 109	**RBD471ZA-0**	Knob, Tape [S]
K 110	**RBD472ZA-0**	Knob, Volume [S]
K 111	**RBS232ZA-0**	Knob, Direction [K]
K 112	**1WBAFD80ZA**	Flat Cable
K 113	**RHS972ZA**	Sheet, Magnet
K 114	**RDS2058Z**	Spring, Direction Lever
K 115	**RJT202B**	Terminal, Earth
K 116	**RHG1125Y**	Rubber, Cushion
K 117	**RJP4G18ZA**	Plug (4 Pin, CP102)
K 118	**RJS4L4Z**	Socket (4 Pin, CS102)
K 119	**RME447ZA**	Holder, CD Circuit [W]
K 120	**XTV3+6F**	Screw ⊕3×6 (CD Circuit Holder M'tg)
K 121	**RUA773ZA**	Shassis, CD
K 122	**SUSD62**	Spring, Traverse Base
K 123	**XWA3B**	Washer, Earth Terminal
K 124	**XTN14+C6JFZ**	Screw ⊕1.4×6 (CD Circuit Board M'tg)
K 125	**RUV784ZAR**	Cover, Leaf Switch
K 126	**RUV783ZAR**	Cover, Jack
K 127	**RUA773ZB**	Chassis, CD
K 128	**XTV26+6F**	Screw ⊕2.6×6 (Leaf Switch M'tg)
K 129	**RME441ZA**	Holder, CD Circuit [K]
	ACCESSORIES	
A 1	**RQX4932ZA**	Operating Instructions
A 2	**RJA22X**	Power Cord, AC ⚠
	PACKINGS	
P 1	**RPH565ZA**	Polyethylen Cover
P 2	**RPN9546ZA**	Pad
P 3	**RPK2445ZA**	Gift Box
P 4	**RPN5239ZA**	Pad
P 5	**RPN5254ZA**	Pad
	CONNECTORS	
61	**EMCS0252B**	Connector (CN103, CN405)
62	**EMCS0352B**	Connector (CN702)
63	**SJSD1108**	Connector (CN102)
64	**SJSD0908**	Connector (CN801)
65	**SJSD0408**	Connector (CN101)
	TRAVERS DECK	
41	**SIRD24E**	Turntable Ass'y
42	**SIRD21E**	Traverse Base
43	**SHGD50**	Rubber
44	**SHGD51**	Rubber
45	**S0MD10E-1**	Rotor Ass'y
46	**SXPD580**	Spindle P.C.B. Ass'y
47	**SDGD22E-1**	Gear Ass'y
47-1	**SDGD21E**	Motor Ass'y
47-2	**SDGD22**	Gear
47-3	**SDGD24**	Gear
47-4	**SDGD23**	Gear
47-5	**SUWD30-1**	Spring
47-6	**SUSD41**	Spring
47-7	**SHRD63**	Spacer
48	**S0AD40A**	Optical Pick Up
49	**SDGD25**	Gear
50	**SUXD26**	Shaft
51	**SUXD27**	Shaft
52	**SUWD27**	Bracket
53	**SUWD28**	Bracket
54	**SHRD24**	Roller
55	**SUSD35-1**	Spring
	SCREWS, WASHERS AND NUTS	
N6	**SNSD16**	Screw
N7	**XQN2+A2**	Screw
N9	**XTS2+A6JFZ**	Screw
N10	**SNWD1**	Washer
N11	**SNSD4**	Screw
N12	**XWC2AV**	Washer
N13	**XNF2BBN**	Nut
N14	**XTN2+E8JFN**	Screw
N16	**SHWD1**	Washer
N17	**SNSD20**	Screw
N20	**XTS2+A13JW**	Screw
N21	**XQN2+A15FN**	Screw

D

■ REPLACEMENT PARTS LIST

Notes:

1. Important safety notice.
   Components identified by ⚠ mark have special characteristics important for safety.
   When replacing any of these components, use only manufacture's specified parts.

(MAIN SECTION)

Ref. No.	Part No.	Part Name & Description
		INTEGRATED CIRCUITS
IC 1	RVITA7358P	IC (FM FRONT END)
IC 2	BA4236L	IC (FM/AM IF AMP DET, AM OSC MIX)
IC 3	RVIBA1332L	IC (FM MPX)
IC 301	RVIBA328	IC (PRE/EQ AMP)
IC 302	RVILM1131C	IC (DOLBY NR AMP)
IC 304	AN7147N	IC (POWER AMP)
IC 305	BA6122A	IC (DD CONV)
IC 306	RVIBA6433	IC (AMBIENCE AMP)
IC 901	AN7332S	IC (G.EQ AMP)
		TRANSISTORS
Q 1	2SC3313BTA	Transistor (FM IF AMP)
Q 101, 103, 201, 203, 301, 318	2SC3311RTA	Transistor (AGC, REC AMP, SWITCHING)
Q 102, 202, 308, 310	2SC1740SLNS	Transistor (AF AMP, MIC AMP, MIX AMP)
Q 104, 105, 204, 205, 309	2SD1468SR	Transistor (MUTING, SWITCHING)
Q 302, 314, 321	RVTDTC114TS	Transistor (SWITCHING)
Q 303, 307, 316, 325, 331	2SC3311RTA	Transistor (SWITCHING)
Q 305	2SD1449STA	Transistor (SWITCHING)
Q 306	2SC2001K1	Transistor (BIAS OSC)
Q 311, 326	2SD1302	Transistor (REGULATOR, MOTOR DRIVE)
Q 312	2SC1846R	Transistor (REGULATOR)
Q 313	RVTDTA114YST	Transistor (SWITCHING)
Q 315	RVTDTC114YST	Transistor (SWITCHING)
Q 317	RVTDTA143XS	Transistor (SWITCHING)
Q 320	2SD1480R	Transistor (SWITCHING)
Q 322	UN4210TA	Transistor (SWITCHING)
Q 327	2SB948AP	Transistor (SWITCHING)
Q 328	2SA719RTA	Transistor (SWITCHING)
Q 330	2SD965QTA	Transistor (RECT)
Q 332	UN4110TA	Transistor (SWITCHING)
		DIODES & RECTIFIERS
D 1, 2, 3, 4	MA165	Diode (D. AGC, SWITCHING)
D 101, 201, 301, 302, 306, 307, 312, 313, 315, 317, 501	RVD1SS133	Diode (SWITCHING)
D 102	MA175WA	Diode (SWITCHING)
D 103	MA175WK	Diode (SWITCHING)
D 303	MA4068MTA	Diode (REGULATOR)
D 305	MA4100LTA	Diode (REGULATOR)
D 502, 503	LN022380P	LED (FWD/REV IND)
D 504	LN249RPHCF	LED (FM STEREO IND)
D 700, 701, 702, 703	RVD10E1LF	Diode (RECT)
		COILS
L 2	RLD4Y53	Coil, FM OSC
L 3	RLF2C62	Coil, AM ANT
L 6	RL02B105	Coil, AM OSC
L 101, 201	RLE5031	Filter
L 102, 202	RLQZB822K	Coil, Choke
L 301	RL08R4-K	Coil, REC BIAS
L 302	RLQZB470K	Coil, Choke
L 303	RLQZD101K	Coil, Choke
L 305, 307	RLQW500K	Coil, Choke
L 306	RLQV201K	Coil, Choke
		TRANSFORMERS
T 1, 3	RLi4B153	IFT, FM 1st, 2nd
T 2	RLi2B458	IFT, AM
T 700	RLT5Z5C2A-X	Power Transformer ⚠
		VARIABLE CAPACITORS
VC 1, 2, 3, 4 (CT 1, 3, 5, 6)	RCV4LC2V3K-S	Variable Capacitor/with Trimmer Capacitor

Ref. No.	Part No.	Part Name & Description
		VARIABLE RESISTORS
VR 1	EVND4AA00B14	FM VCO Adjustment VR 10kΩ (B)
VR 11	EWATF2C95B54	Volume Control VR 50kΩ (B)
VR 13	EWASJ2C95G54	Balance Control VR 50kΩ (G)
VR 101, 201, 301	EVND4AA00B14	Playback Level, Rec Bias Adjustment VR 10kΩ (B)
VR 102, 202	EVND4AA00B25	Record/Playback Gain Adjustment VR 200kΩ (B)
VR 901	EVBJT2PA1201	G. EQ Control VR
		CERAMIC FILTERS
CF 1	RVF107WDZ	Ceramic Filter (10.7MHz)
CF 2	RVFSFU455B	Ceramic Filter (455kHz)
		THERMISTOR
TH 301	RRT202	Thermistor
		FILTER
Z 1	RXABPMB6AT	Component Combination
		SWITCHES
S 1	RSS3A15Z	Slide Switch, Mode/B.P
S 2	RSS2B57Z	Slide Switch, Band
S 101	RST4F10ZA-H	Slide Switch, Function
S 102	RST2B48ZA-H	Slide Switch, Dolby
S 103	RST2F16ZA-H	Slide SWitch, Tape Selector
S 104	RSH2J04TA-A	Slide SWitch, R/P
S 105	(Refer to J3)	Switch, AC/DC ⚠
S 107, 109	RFA52ZA	Leaf Switch, Motor, FWD/REV DET
S 108, 110	RFA75ZA	Leaf Switch, FF/REW, PLAY
S 301	RSH2B38YA-M	Slide Switch, Power
S 501, 502, 503, 504, 506, 507, 508	EVQQS405K	Push Switch, Play/FF/REW/Stop/REM TIME/Repeat/Memory
S 505	ESB6488	Push Switch, Synchro Start
		JACKS
J 1	RJJD3M6Z	Jack, MIX MIC
J 2	RJJD7S2Z	Jack, Headphones
J 3 (S105)	RJJ1A3Y	Jack, AC/DC IN ⚠
J 4	RJF1103ZA	Jack, Line in/out
		IC PROTECTOR
IP 1	RAHiCPN5	IC Protector

Ref. No.	Part No.	Part Name & Description
		TRANSISTORS
Q101	2SD601-QRSTX	Transistor
Q401	DTA144EKT96	Transistor
Q705	2SB766-QRSTX	Transistor
Q706	2SD874-QRSTX	Transistor
		DIODES
D101	MA151WKTX	Diode
D102, 103	MA721TX	Diode
D251	MA153TX	Diode
D404, 405	MA151WKTX	Diode
D406	MA151WKTX	Diode
		VARIABLE RESISTORS
VR101	EVM07SX00B53	Variable Resistor
VR102	EVM07SX00B24	Variable Resistor
VR103, 104	EVM07SX00B14	Variable Resistor
VR105	EVM07SX00B14	Variable Resistor
VR106	EVM07SX00B53	Variable Resistor
VR301	EVM07SX00B52	Variable Resistor
		COILS
L101	SZWD45	Coil
L251	SLQDNL100KT	Coil
		CRYSTAL
X301	SZWD4-1	Crystal 16.9344MHz
		DISPLAY
LCD40	EDD062C71A3P	Display
		SWITCHES
S801	SSPD4	Switch, Laser
S802	RSH1A75ZA-U	Switch, Open/Close
S803	SSHD1	Switch, Rest

(CD SECTION)

Ref. No.	Part No.	Part Name & Description
		INTEGRATED CIRCUITS
IC101	AN8370S	Integrated Circuit
IC102	AN8375S	Integrated Circuit
IC251	AN8290S	Integrated Circuit
IC301	MN6617	Integrated Circuit
IC302	MN6618F	Integrated Circuit
IC303	MN4416S-12	Integrated Circuit
IC304	GX573	Integrated Circuit
IC401	MN15845PDG	Integrated Circuit
IC701	AN8050S	Integrated Circuit
IC703	RX610	Integrated Circuit
IC801	AN8376S	Integrated Circuit
IC802	SVIPCM55HP	Integrated Circuit
IC803	MN6636S	Integrated Circuit
IC805, 806	SVIHZDN2041	Integrated Circuit

(MAIN SECTION)

Ref. No.	Part No.
	CAPACITORS
C 1, 5, 9	ECKT1H102MD
C 2, 7	ECCT1H180KC
C 3, 13	ECCT1H040C
C 6	ECCT1H120KC
C 8	RCBS1H470JL
C 10, 11	ECKT1H103ZF
C 12, 43, 59	RCBS1H331KB
C 18, 30, 35, 41, 42, 57	ECFT1C223MD
C 21	ECCT1H070D
C 31	ECEA1HU2R2B
C 36	ECEA0JU221B
C 38, 40	ECFT1C103MD
C 45	ECEA1CU100
C 46, 50	ECEA1HU010
C 47	ECFT1C153MD
C 48	ECEA1HU0R1B
C 51	ECQP2A102JZT
C 56	ECCT1H181K
C 58	ECEA1HUR47B
C 101, 110, 112, 130, 132, 141, 145, 201, 210, 212, 230, 232, 241, 245, 346, 348, 351	ECEA1HU010
C 102	ECCT1H221K
C 103, 113, 147, 203, 213, 247	RCBS1H471KB
C 105, 115, 205, 215	ECEA1EU3R3B
C 106, 206	ECEA0JU470

■ RESISTORS & CAPACITORS

Numbering System of Resistor

Example:

ERD	25	F	J	101
Type	Wattage	Shape	Tolerance	Value (100Ω)

ERJ	6G	C	J	2R2
Type	Wattage	Shape	Tolerance	Value (2.2Ω)

Resistor Type		Wattage	Tolerance
ERD:	Carbon Resistor	10 : 1/8W	F : ±1%
ERC:	Solid Resistor	25 : 1/4W	G : ±2%
ERF:	Incombustible Box-Shaped Wire-Wound Resistor	50 : 1/2W	J : ±5%
		18 : 1/8W	K : ±10%
		14 : 1/4W	M : ±20%
		12 : 1/2W	
ERG:	Metal Oxide-Film Resistor	1 : 1W	
		2 : 2W	
ERM:	Wire-Wound Resistor	3 : 3W	
		S1 : 1/2W	
ERO:	Superstable Metal Film Resistor	S2 : 1/4W	
		6G : 1/10W	
		8G : 1/8W	
ERX:	Metal-Film Resistor		
RRJ: ERJ:	Chip Resistor		

※ Capacity are in microtarads (μF) unless specified otherwise, P=Pico-farads.
※ Resistance are in ohms (Ω), unless specified otherwise, 1K=1,000Ω, 1M=1,000KΩ

Numbering System of Capacitor

Example:

ECKD	1H	102	Z	F
Type	Voltage	Value (1000pF)	Tolerance	Peculiarity

ECEA	50	M	R47
Type	Voltage	Peculiarity	Value (0.47μF)

Capacitor Type		Voltage	Tolerance
ECCD:	Ceramic Capacitor (Chitacon)	(ECCD, ECKD Type) 1H : 500V DC 2H : 500V DC	K : ±10% M : ±20%
ECKD:	Ceramic Capacitor (Chitabari)	(ECFD Type) C : 12V DC D : 25V DC	Z : +80% −20%
ECFD:	Semiconductor Ceramic Capacitor	E : 50V DC (ECQ Type)	J : ±5%
ECE□:	Electrolytic Capacitor	05 : 50WV DC 1 : 100WV DC	G : ±2% F : ±1%
ECS□:	Tantalum Fixed Electrolytic Capacitor	(ECE, ECS Type) 0G : 4V 0J : 6.3V 1A : 10V 1C : 16V 1E : 25V 1V : 35V 1H : 50V 1J : 63V 2A : 100V	C : ±0.25pF D : ±0.5pF F : ±1pF
ECQ□:	Polystyrenc Film Capacitor		
ECQS:	Polystyrene Film Capacitor		
ECQS:	Polypropylene Film Capacitor		
ECQV:	T.F Capacitor		
ECU□: RCU□:	Chip Capacitor		
ECBT:	Cylindrical Ceramic Capacitor		

Ref. No.	Part No.	Ref. No.	Part No.	Ref. No.	Part No.
C 107, 125, 207, 225	ECFT1C333KDY	C 901, 909, 911, 912, 914, 922, 924, 925	ECEA1HKS010L	R 112, 212, 310, 351, 362, 371, 372, 378, 383, 388	ERDS2TJ103T
C 108, 137, 208, 237	RCBS1H102KB	C 902, 915	ECUV1H223MD		
C 111, 211	ECFT1C333MD	C 903, 916	ECEA1HKSR33	R 113, 213	ERDS2TJ182
C 116, 121, 133, 140, 216, 221, 233, 240, 307, 315	ECEA1CU100	C 904, 917	RCUV1H682KB	R 115, 122, 215, 222	ERDS2TJ683
		C 905, 918	ECEA1HKS0R1	R 118, 218	ERDS2TJ474
		C 906, 919	RCUV1H222MD	R 119, 219	ERDS2TJ272
		C 907, 920	ECUV1E333MD	R 120, 151, 220, 251, 358, 393, 399	ERDS2TJ151
		C 908, 921	ECUV1E683MD		
		C 910, 923	RCUV1E103MD	R 121, 221, 342, 352, 395	ERDS2TJ122T
C 117, 143, 217, 243, 343	ECEA1HU0R1B	C 913	ECEA0JKS101i	R 123, 223	ERDS2TJ274
C 118, 149, 218, 249	ECEA1HUR33B	**RESISTORS**		R 125, 225, 335	ERDS2TJ473
C 120, 220	ECFT1C473KD	R 1, 2	ERDS2TJ101T	R 126, 147, 226, 247, 341, 345, 348, 382, 391	ERDS2TJ332
C 122, 222	ECFT1C472KD	R 3	ERDS2TJ100		
C 123, 223	ECQP2A332JZT	R 4	ERDS2TJ394T		
C 126, 127, 226, 227, 375, 376	ECEA1EU4R7	R 6	ERDS2TJ824	R 131, 143, 231, 243	ERDS2TJ333
		R 7	ERDS2TJ331		
C 128, 131, 228, 231, 338	ECFT1C473MD	R 8	ERDS2TJ221	R 132, 232, 347, 353	ERDS2TJ684
		R 13	ERDS2TJ470T		
C 135, 235	ECQP2A183JZT	R 16	ERDS2TJ222	R 135, 235	ERDS2TJ821
C 136, 236, 340, 347	ECFT1C223MD	R 17	ERDS2TJ123T	R 146, 246, 387, 390	ERDS2TJ223
		R 20	ERDS2TJ560T		
C 139, 144, 239, 244	RCBS1H331KB	R 21	ERDS2TJ472	R 149, 249	ERDS2TJ682
		R 22, 23	ERDS2TJ821	R 150, 250	ERDS2TJ2R2T
C 142, 242	RCBS1C332MX	R 24	ERDS2TJ104T	R 301, 366, 502	ERDS2TJ221
C 146, 246	ECEA0JU101B	R 25	ERDS2TJ822	R 305	ERD25VJ106T
C 148, 248, 302, 342, 365	ECEA1AU101B	R 26, 27	ERDS2TJ392T	R 309	ERD25FVJ100T
C 150, 250	ECEA1AU222E	R 28	ERDS2TJ102	R 320	ERDS2TJ123T
C 151, 251	ECQV1H224JZ	R 101, 116, 136, 201, 216, 236, 311, 370, 379, 398	ERDS2TJ104T		
C 202	ECKT1H471KB			R 340	ERD25FVJ3R3T
C 301	ECQV1H474JZ3			R 350, 356	ERDS2TJ470T
C 303, 308, 336, 362, 367	ECEA1AU221B	R 102, 134, 148, 202, 234, 248, 303, 306, 312, 337, 363	ERDS2TJ101T	R 365, 367, 396, 501	ERDS2TJ471
C 305, 368, 381, 386	ECEA1AU471			R 375	ERDS2TJ154T
C 306, 316	ECEA0JU221B			R 381	ERD25FVJ1R0T
		R 103, 145, 203, 245, 397	ERDS2TJ392	R 385	ERDS2TJ393
C 310	ECEA0JU471	R 104, 110, 204, 210	ERDS2TJ153T	R 500	ERD25VJ102T
C 311	ECFT1C153MD	R 105, 127, 133, 137, 144, 205, 227, 233, 237, 244, 302, 339, 346, 357, 360, 368, 373, 392	ERDS2TJ472	R 914, 915	RRJ6GCJ182TE
C 312, 341	ECFT1C103MD				
C 313	ECEA1HUR47B				
C 317, 383	ECEA1EU471B				
C 318, 320	ECEA1EU222				
C 332, 700, 701, 702, 703	ECKT1H103ZF				
C 333	ECQP2A272JZ				
C 335	ECQP2A223JZT				
C 337	ECKT1H332MD				
C 339, 352, 370	ECEA1HU2R2B	R 107, 117, 138, 207, 217, 238, 321	ERDS2TJ152		
C 345, 350	ECKT1H102MD				
C 360, 363	ECKT1H103MD	R 108, 140, 208, 240, 307, 308, 338, 343, 355, 361, 386	ERDS2TJ222		
C 372	ECEA1EU221				
C 377	ECKT1H681KB				
C 382, 387	ECKT1H333ZF				
C 385	ECEA1AFS471E	R 111, 128, 142, 211, 228, 242, 314, 332, 380, 384	ERDS2TJ102		
C 388	ECEA1CU220B				
C 389	ECFD1C223MD				
C 390	RCBS1H221KB				

Ref. No.	Part No.
	CAPACITORS
C102	RCUV1H222KB
C103	RCUV1H102KB
C104	RCUX1H102K
C105	RCUV1H681K
C106, 107	RCUV1H102KB
C108	ECEA1AKS470
C109	RCUV1H220KC
C110, 111	RCUV1H271KC
C112	RCUV1E104ZF
C113	ECEA0JKS101I
C114	ECEA1HSN010L
C115, 116	RCUV1E104ZF
C117	RCUV1H681K
C118	ECEA0JSN220I
C119	ECEA1HKS010L
C120	RCUV1H471KC
C121	ECUV1E333MB
C122	RCUV1H682KB
C123	RCUV1H182KB
C124	ECSE1VY334R
C125	RCUV1E104ZF
C128, 129	RCUV1H102KB
C141	ECUV1E333MB
C142	ECEA1HSNR47L
C143	RCUV1E183KB
C144	RCUV1H392KB
C145	RCUV1E223KB
C146	RCUV1E153KB
C147	RCUV1H561KB
C148	RCUV1H822KB
C149	ECEA1ESN3R3I
C150	ECUV1E223KB
C151	RCUV1H152KB
C152	ECUV1E333KB
C153	ECEA1ESN3R3I
C154	ECUV1E223KB
C155	ECSE1ET155R
C156	ECSE1AT225SR
C157	ECSE0JT336
C158	ECUV1H473KB
C159	ECSE0JT336
C251	RCUV1E104ZF
C252	RCUX1H152KB
C253	RCUX1E273KB
C254	RCUV1E223KB
C255	ECSE1CY474L
C256	ECEA1CKS330I
C257	RCUX1E104ZF
C258	ECEA1CSN220L
C259	ECEA1CSN220I
C260	ECEA1CSN220L
C301	ECEA1VSN2R2I
C302	RCUX1H103ZF
C303	RCUV1H100DC
C304	RCUV1H100DC
C306	RCUV1H103ZF
C308	ECUV1C105ZF
C309, 311	RCUV1E104ZF
C401	RCUV1H103ZF
C402	RCUV1E104ZF
C701, 702	ECSF1AE226
C703	ECSE0JT225SG
C704	ECSE09T225R5
C705	ECSE1AT155R
C706, 707	ECSE0JT225SG
C712	ECEA0JKS220I
C714	ECEA0JKS101I
C717	ECEA0JKS101
C801, 802	ECEA0JKS470I
C805, 806	RCUV1H331KC
C807, 808	ECEA0JSN220I
C813	RCUV1H103ZF
C814, 815	RCUV1E104ZF
C818	RCUV1E104ZF
C819, 820	ECUV1H102KC
C821, 822	ECSE0JT106R

Ref. No.	Part No.
R113, 114	ERJ6GMYJ102W
R115	ERJ6GEYJ102C
R116	ERJ6GEYJ223V
R117	ERJ6GEYJ472V
R118	ERJ6GEYJ332V
R119	ERJ8GEYJ154V
R131, 132	ERJ6GEYJ472V
R133	ERJ6GEYJ222V
R134	ERJ6GEYJ473V
R135	ERJ6GEYJ681V
R136	ERJ6GEYJ223V
R137	ERJ6GEYJ124V
R138, 139	ERJ8GCYJ2R7W
R140	ERJ6GEYJ223V
R141	ERJ6GEYJ681V
R142	ERJ6GEYJ473V
R143	ERJ6GEYJ222V
R144	ERJ6GEYJ152V
R145	ERJ6GEYJ224V
R146	ERJ6GEYJ104V
R147	ERJ6GMYJ334W
R148	ERJ6GEYJ183V
R149	ERJ6GMYJ473W
R150	ERJ6GEYJ473V
R151	ERJ6GEYJ472V
R152	ERJ6GEYJ473V
R251	ERJ6GMYJ562
R252	ERJ6GMYJ473W
R253	ERJ6GMYJ683W
R254	ERJ6GMYJ473W
R255	ERJ6GMYJ563W
R256	ERJ6GEYJ223V
R257	ERJ8GEYJ2R2V
R303	ERJ6GEYJ152V
R304	ERJ6GEYJ561V
R401, 402	ERJ6GEYJ222V
R403	ERJ6GEYJ222V
R404, 405	ERJ6GEYJ472V
R407, 408	ERJ6GEYJ472V
R409, 410	ERJ6GEYJ102C
R411	ERJ6GEYJ102C
R413	ERJ6GEYJ103V
R801, 802	ERJ6GEYJ4R7V
R803, 804	ERJ6GEYJ162V
R805, 806	ERJ6GEYJ152V
R807, 808	ERJ6GEYJ102C
R809, 810	ERJ6GEYJ102C
R821	ERJ6GMYJ473W
R822	ERJ6GEYJ473V
R832, 833	ERJ6GEYJ102C
R834, 835	ERJ6GEYJ223V

(CD SECTION)

Ref. No.	Part No.
	RESISTORS
R101	ERJ6GEYJ102C
R102	ERJ6GMYJ102W
R103	ERJ6GEYJ822V
R104	ERJ6GMYJ682W
R105, 106	ERJ6GEYJ222V
R107	ERJ6GEYJ682V
R108	ERJ6GEYJ822V
R109	ERJ6GEYJ154V
R110, 111	ERJ6GEYJ222V
R112	ERJ8GEYJ100V

GAD H.Y M Printed in Japan Ⓗ

ORDER NO. GAD8701621S1
A6

Service Manual

Supplement

Radio Cassette

Stereo Radio Cassette Recorder

RX-FD80

(Black)

COMPACT disc DIGITAL AUDIO

DIGITAL

This is the Service Manual for the following area.

M ··· For U.S.A.

- Please use this manual together with the service manual for model RX-FD80 M order No. GAD8611621C1.
- This service manual indicates the main differences between; model RX-FD80 M and supplement.

CHANGE

■ PARTS COMPARRISON TABLE:

Ref. No.	Description	Part Number		Remarks
		RX-FD80 M (Original)	**RX-FD80 M (Supplement)**	
M55	Lever, Rec Button	RFS671ZA	**RFY760ZA**	
M95	Lever, Control	RFY745ZA	**RFY757ZA**	
M97	Lever, Stop	RFY746ZA	**RFY758ZA**	
M112	Lever, Operation	RFY747ZA	**RFY759ZA**	
M228	Screw ⊕2.3×5 (Rec Change Lever M'tg)	RFE346ZA	**RFE349ZA**	

CORRECTION

(Original)

Ref. No.	Part Name & Description	Part. No.	Remarks
S801	Switch, Laser	SSPD4	
S802	Switch, Open/Close	RSH1A75ZA-U	

(Supplement)

Ref. No.	Part Name & Description	Part. No.	Remarks
S801	**Switch, Open/Close**	**RSH1A75ZA-U**	
S802	**Switch, Laser**	**SSHD1**	

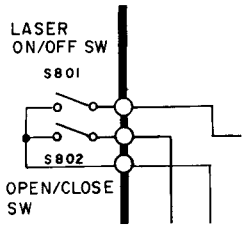
Panasonic®

Matsushita Service Company
50 Meadowland Parkway,
Secaucus, New Jersey 07094

Panasonic Hawaii Inc.
91-238 Kauhi St. Ewa Beach
P.O. Box 774
Honolulu, Hawaii 96808-0774

Panasonic Sales Company, Division of Matsushita Electric of Puerto Rico, Inc.
Ave. 65 De Infanteria, KM 9.7
Victoria Industrial Park
Carolina, Puerto Rico 00630

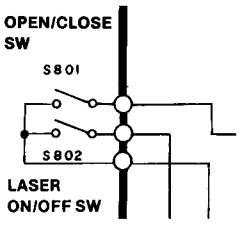
■ SCHEMATIC DIAGRAM (CD PLAYER SECTION)



Notes:

1. S801 : Laser ON/OFF switch in "**OFF**" position.
2. S802 : Open/Close switch in "**OFF**" position.

(Original)

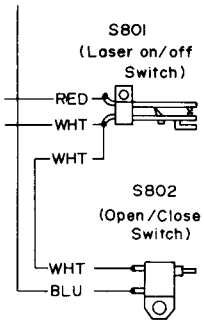


Notes:

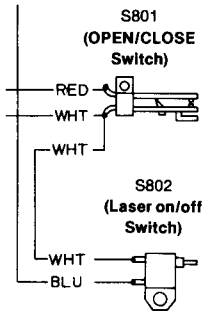
1. S801 : **Open/Close** switch in "**OFF**" position.
2. S802 : **Laser ON/OFF** switch in "**OFF**" position.

(Supplement)

■ PRINTED CIRCUIT BOARD

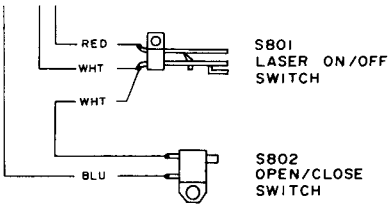


(Original)

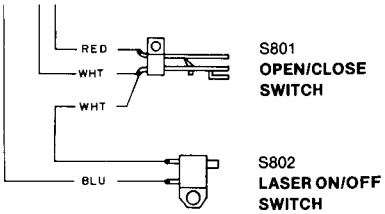


(Supplement)

■ WIRING CONNECTION DIAGRAM



(Original)



(Supplement)

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D

Adjustment Manual and Power-on Checking Method

■ MEASUREMENTS AND ADJUSTMENTS

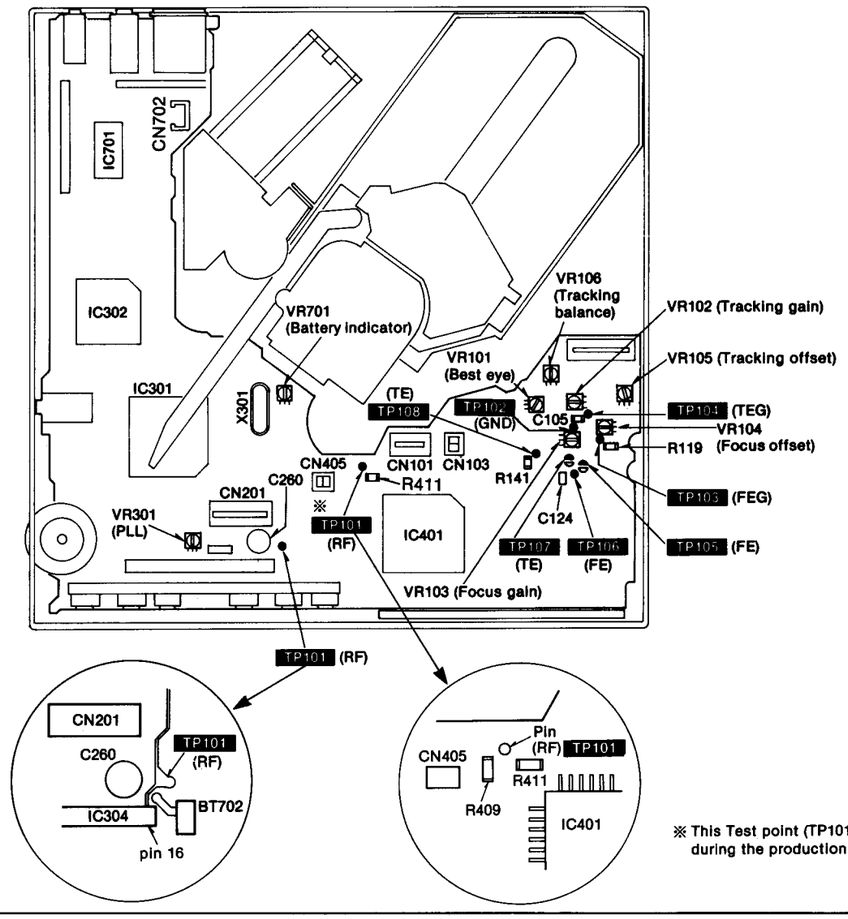
Caution:
- It is very dangerous to look at or touch the laser beam. (Laser radiation is invisible.) With the unit turned "on", laser radiation is emitted from the pickup lens. Avoid exposure to the laser beam, especially when performing adjustments.

ELECTRICAL ADJUSTMENT

Measuring Instruments and Special Tools

- Servo gain adjuster (SZZP1017F)
- Test disc
  Test disc (SZZP1014F) old type
  Test disc (SZZP1014F) new type
  Inspection test disc (SZZP1054C)
  Uneven disc (SZZP1056C)
  Black band disc (SZZP1057C)
- Ordinary disc
- Short lead wires
- Conversion connector (SZZP1032F)
- Connector with lead wire (SZZP1074C)
- Filter for tracking offset balance (SZZP1060C)
- Power supply connector (SZZP1077C)
- Two-channel oscilloscope (with trigger) of 30 MHz or over
- Low frequency oscillator
- DC power supply unit

Adjustment Points



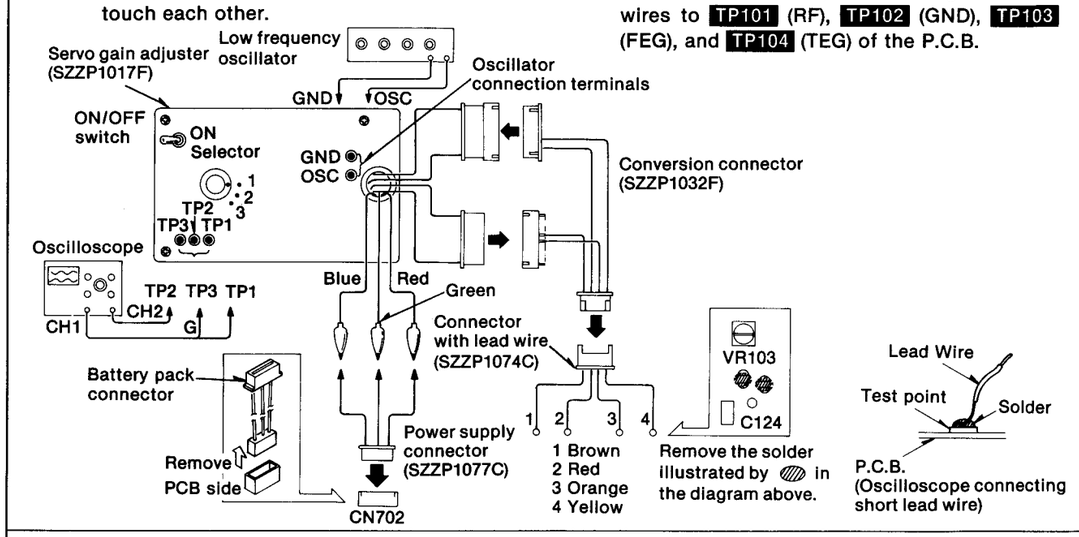
※ This Test point (TP101) was added during the production.

Preparation for Adjustments

1. Installation of servo gain adjuster (SZZP1017F).
   a) Be sure to turn off the power switch of the player.
   b) Remove the battery pack supply connector (CN702) and install the **power supply connector (SZZP1077C)** instead. Connect the clips of servo gain adjuster to the power supply connector lead wires, matching the colors of the lead wires.

Note: When connecting the clips to the lead wires, make sure that the wires do not touch each other.

   c) Connect the connector of servo gain adjuster to the **conversion connector (SZZP1032F)** and the **connector with lead wire (SZZP1074C)**.
   d) Remove the solder shorted part of focus and tracking gain circuit. (See diagram below.)
   e) Solder the lead wires of the **connector with lead wire (SZZP1074C)** to the test points. (TP105 to Red, TP106 to Brown, TP107 to Yellow, TP108 to Orange)
2. Solder the oscilloscope connecting short lead wires to TP101 (RF), TP102 (GND), TP103 (FEG), and TP104 (TEG) of the P.C.B.



Adjustment Procedure

Step 1: Temporarily set each VR (VR101~106, VR301, and VR701) to its mechanical center as shown below.

Step 2: Best eye (PD balance) adjustment.

Step 3: Focus gain adjustment.

Step 4: Tracking gain adjustment.

Step 5: Focus offset adjustment.

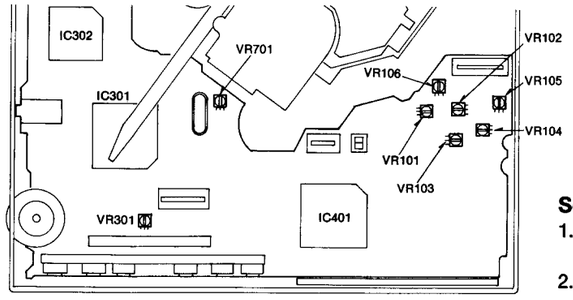
Step 6: Tracking offset adjustment.

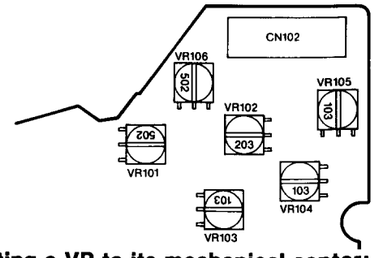
Step 7: Tracking balance adjustment.

Step 8: PLL adjustment.

Step 9: Check of operation after adjustment.

Step 10: Battery indicator adjustment.



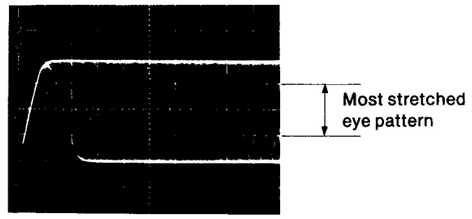


Setting a VR to its mechanical center:

1. Look at the VR with its terminals pointing towards you.
2. Align the VR's groove so that it is vertical and the engraved three-digit number is on the left side.

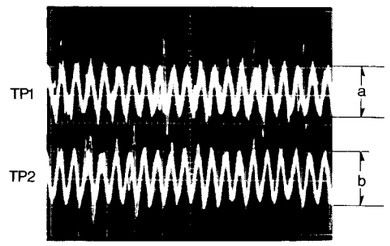
BEST EYE (PD BALANCE) ADJUSTMENT

1. Set the selector switch of the servo gain adjuster to "**2**" and ON/OFF switch to "**ON**".
2. Connect CH1 of the oscilloscope to TP101 (+) and TP102 (−) of the P.C.B.
   Oscilloscope setting: VOLT 200mV
   SWEEP.....0.5µsec.
   INPUT.....AC
3. Insert a test disc (**SZZP1014F or SZZP1054C**) and turn on the power switch of the player.
4. Set the player to the play mode.
5. Adjust **VR101** so that the eye pattern of RF signal is stretched to maximum.
6. Turn off the power switch of the player.



FOCUS GAIN ADJUSTMENT

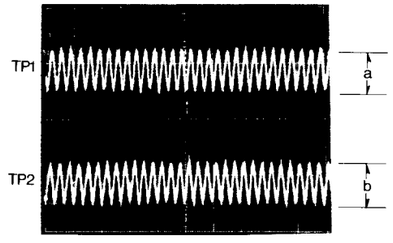
1. Set the low frequency oscillator to a frequency of **1kHz** and an output voltage of **150mVp-p**, Then connect the oscillator to the **OSC** (+) and **GND** (−) terminals of the servo gain adjuster.
2. Connect CH1 and CH2 of the oscilloscope to **TP1** and **TP2** of the servo gain adjuster.
   (**TP3** is the ground terminal.)
   Oscilloscope setting: VOLT 100mV
   (both channels)
   SWEEP.....1msec.
   INPUT.....AC
3. Insert a test disc (**SZZP1014F or SZZP1054C**) and turn on the power switch of the player.
4. Set the player to the play mode.
5. Set the selector switch of the servo gain adjuster from "**2**" **to** "**1**".



6. 1kHz signals will be displayed on the oscilloscope. Adjust **VR103** until the waveform amplitudes of **both channels are equal**.
7. Shift the selector switch of the servo gain adjuster from "**1**" **to** "**2**".
8. Turn off the power switch of the player.

TRACKING GAIN ADJUSTMENT

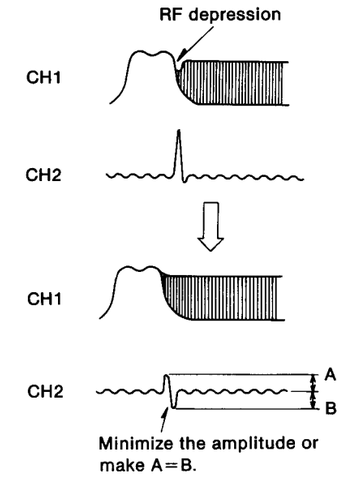
1. Set the low frequency oscillator to a frequency of **1.5kHz** and an output voltage of **150mVp-p**, Then connect the oscillator to the **OSC** (+) and **GND** (−) terminals of the servo gain adjuster.
2. Connect CH1 and CH2 of the oscilloscope to **TP1** and **TP2** of the servo gain adjuster.
   (**TP3** is the ground terminal.)
   Oscilloscope setting: VOLT 100mV
   (both channels)
   SWEEP.....1msec.
   INPUT.....AC
3. Insert a test disc (**SZZP1014F or SZZP1054C**) and turn on the power switch of the player.
4. Set the player to the play mode.
5. Set the selector switch of the servo gain adjuster from "**2**" **to** "**3**".
6. 1.5kHz signals will be displayed on the oscilloscope. Adjust **VR102** until the waveform amplitudes of **both channels are equal**.



7. Shift the selector switch of the servo gain adjuster from "**3**" **to** "**2**".
8. Turn off the power switch of the player.
9. Carefully disconnect the servo gain adjuster from the power supply connector (**SZZP1077C**) and the connector with lead wire (**SZZP1074C**). Remove the connector with lead wire from the P.C.B. and replace the power supply connector with the battery pack supply connector (CN702).

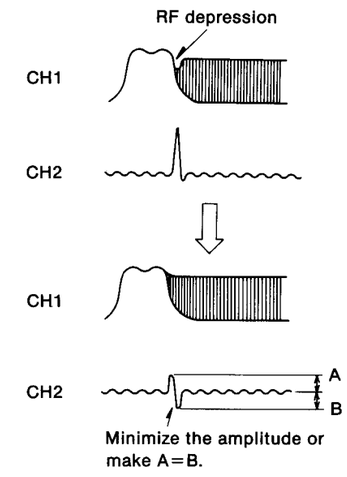
FOCUS OFFSET ADJUSTMENT

1. Connect CH1 of the oscilloscope to the TP101 (+) and TP102 (−). Connect CH2 to the TP103 (+) and TP102 (−) of the P.C.B.
   Oscilloscope setting: VOLT 500mV (CH1)
   200mV (CH2)
   SWEEP.....0.5msec.
   INPUT.....AC (CH1)
   DC (CH2)
   MODE.....NORM
   (Triggering via CH1)
2. Insert a test disc (**SZZP1057C, Black band disc**) and turn on the power switch of the player.
3. Set the player to the play mode.
4. Check the waveforms of CH1 and CH2 on the oscilloscope and adjust **VR104**, so that the waveform around the triggering point becomes as shown in the illustration.



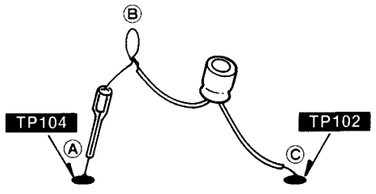
TRACKING OFFSET ADJUSTMENT

1. Connect CH1 of the oscilloscope to the TP101 (+) and TP102 (−). Connect the CH2 to the TP104 (+) and TP102 (−) of the P.C.B.
   Oscilloscope setting: VOLT 500mV (CH1)
   200mV (CH2)
   SWEEP.....0.5msec.
   INPUT.....AC (CH1)
   DC (CH2)
   MODE.....NORM
   (Triggering via CH1)
2. Insert a test disc (**SZZP1057C, Black band disc**) and turn on the power switch of the player.
3. Set the player to the play mode.
4. Check the waveforms of CH1 and CH2 on the oscilloscope and adjust **VR105**, so that the waveform around the triggering point becomes as shown in the illustration.

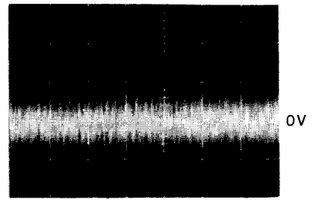


TRACKING OFFSET BALANCE ADJUSTMENT

1. Remove the short lead wires TP104 and TP102 connected during the preparation for adjustment. Solder the **filter for tracking balance** (**SZZP1060C**) to the test point as shown.
2. Connect CH1 of the oscilloscope to Ⓑ (+) and Ⓒ (−) of the filter for tracking balance.
   Oscilloscope setting: VOLT 20mV
   SWEEP.....1msec.
   INPUT.....DC
3. Insert a **test disc** (**SZZP1014F or SZZP1054C**) and turn on the power switch.
4. Set the player to the play mode.
5. Adjust **VR106** so that the voltage at the waveform center of the oscilloscope is **0±10mV**.

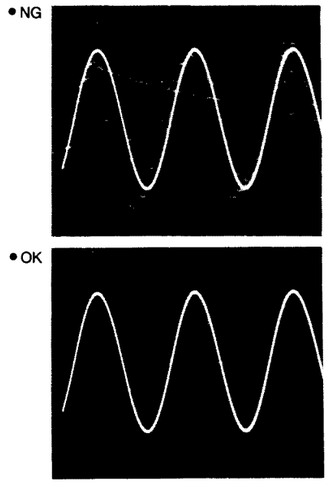


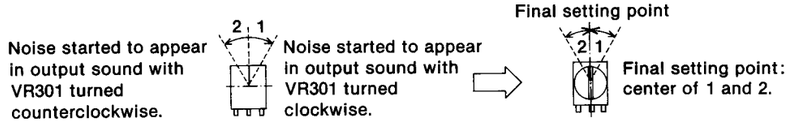
(Filter for tracking balance)



PLL ADJUSTMENT

1. Connect CH1 of the oscilloscope to the **line out terminal** (either of Lch or Rch) and **ground**.
   Oscilloscope setting: VOLT 1V
   SWEEP.....1msec.
   INPUT.....DC
2. Insert a **test disc (SZZP1054C)** and turn on the power switch.
3. Play **Track 6 (wedge 0.7mm)** of the test disc.
4. Check the waveform displayed on the oscilloscope and adjust **VR301** in the following steps.
   Step 1. Turn **VR301** clockwise slowly and observe the point at which the waveform on the oscilloscope begins to be disturbed.
   Step 2. Turn **VR301** counterclockwise slowly and observe the point at which the waveform on the oscilloscope begins to be disturbed.
   Step 3. Set **VR301** in the middle between the points observed in the above steps "1" and "2".
5. Turn off the power switch of the player.




2 1
Noise started to appear in output sound with VR301 turned counterclockwise.
Noise started to appear in output sound with VR301 turned clockwise.
Final setting point
Final setting point: center of 1 and 2.

REMOVAL OF TEST EQUIPMENT

1. Remove the lead wires soldered to the test points.
2. Solder the open portions of focus servo and tracking servo circuits.

CHECK OF PLAY OPERATION AFTER ADJUSTMENT

• Check of skip search

1. Play an ordinary disc.
2. Press the skip button and verify skip search operation (forward and reverse).

• Check of manual search

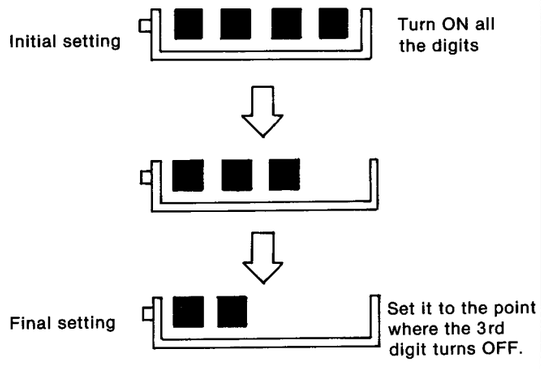
1. Play an ordinary disc.
2. Press the manual search button and verify that smooth manual search can be performed at low and high speeds (forward and reverse).

• Check of playability

1. Play the test disc (SZZP1054C).
2. Play the track 6 (wedge 0.7mm) and verify that there is no skip sound or noise.
3. Play the track 13 (black dot 0.7mm) and verify that there is no skip sound or noise.

BATTERY INDICATOR ADJUSTMENT

1. Be sure to remove the AC adaptor from the player.
2. Remove the battery pack power supply connector CN702 and install the **power supply connector (SZZP1077C)** instead.
3. Connect DC power supply units to the power supply connector.
   Red lead ..... +5.9V
   Green lead..... Ground
   Blue lead ..... −7.2V
4. Re-check the voltage from **DC power supply unit** and adjust it to **+5.9V**.
5. Turn on all the digits of the battery indicator by **VR701**, and turn them off in order. Stop turning **VR701** when the 3rd digit turns off coming down to the 2nd digit.



OPTICAL PICKUP ADJUSTMENT

Measuring Instruments and Special Tools

- Two-channel oscilloscope (with trigger) of 30MHz or over
- Test disc
  Test disc (SZZP1014F) old type
  Test disc (SZZP1014F) new type
  Inspection test disc (SZZP1054C)
- Hexagonal wrench (2mm)
- Screw lock paint (RZZ0L01)
- Lead wires

Adjustment Procedure and Adjustment Points

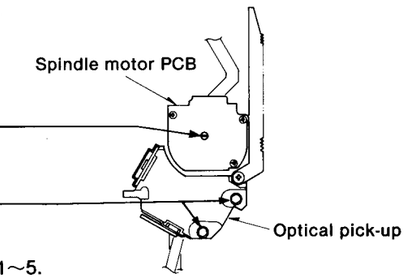
- If the optical pickup is replaced, adjust it according to the following procedure.

Step 1: Temporarily set each VR (VR101~VR106, VR301, and VR701) to its mechanical center. ...See page 2.

Step 2: Turntable height adjustment.

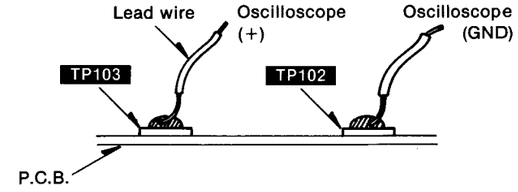
Step 3: Mechanical adjustment.

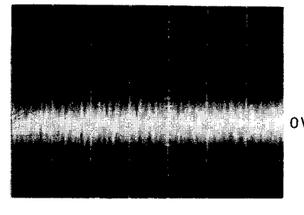
Step 4: Electrical adjustment. ...See pages 1~5.

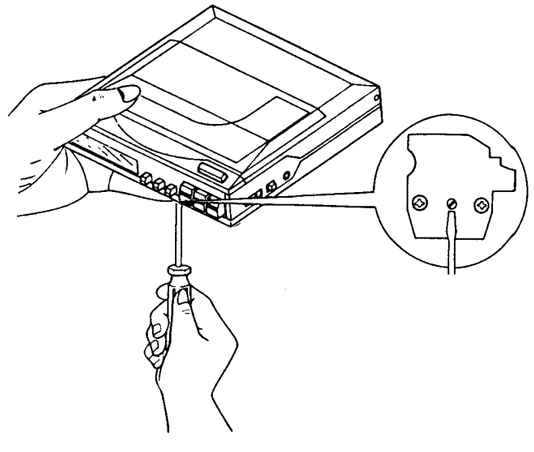


TURNTABLE HEIGHT ADJUSTMENT

1. Turn off the power switch of the player.
2. Solder the lead wires to TP103 (FEG) and TP102 (GND) of the P.C.B. so that the probe of oscilloscope can be connected.
3. Connect CH1 of the oscilloscope to the TP103 (+) and TP102 (−) of the lead wires.
   Oscilloscope setting: VOLT 200mV
   SWEEP.....5msec.
   INPUT.....DC
4. Set the oscilloscope to DC zero balance.
5. Insert a **test disc (SZZP1014F or SZZP1054C)** and turn on the power switch of the player.
6. Carefully hold the player with the top face up.
7. Set the player to the play mode.
8. Turn the **adjusting screw** at the bottom of the spindle motor drive P.C.B. with a flat screwdriver so that the waveform is balanced at **0±50mV**.
9. Turn off the power switch of the player.
10. After the adjustment, apply **screw lock paint (RZZ0L01)** to the adjusting screw.

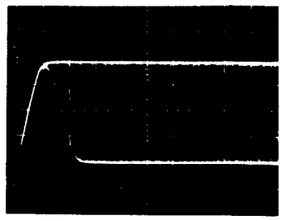






MECHANICAL ADJUSTMENT

1. Connect CH1 of the oscilloscope to TP101 (+) and TP102 (−) of the P.C.B.
   Oscilloscope setting: VOLT 200mV
   SWEEP.....0.5µsec.
   INPUT.....AC
2. Insert a **test disc (SZZP1056C)** and turn on the power switch of the player.
3. Carefully hold the player with the top face up.
4. Monitoring the RF signal on the oscillosocpe, adjust the **two adjusting screws** alternately so that the vertical fluctuation of RF signal is minimized and the eye pattern is most stretched.
5. Turn off the power switch of the player.
6. After the adjustment, apply **screw lock paint (RZZ0L01)** to the two adjusting screws.

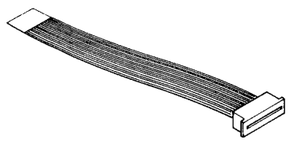


■ POWER-ON CHECKING METHOD

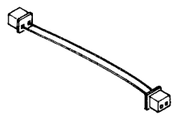
• To check the parts, voltages, etc, on the back of the P.C.B., perform the following procedure.

Special Tools

• FPC extension cord (SZZP1075C)

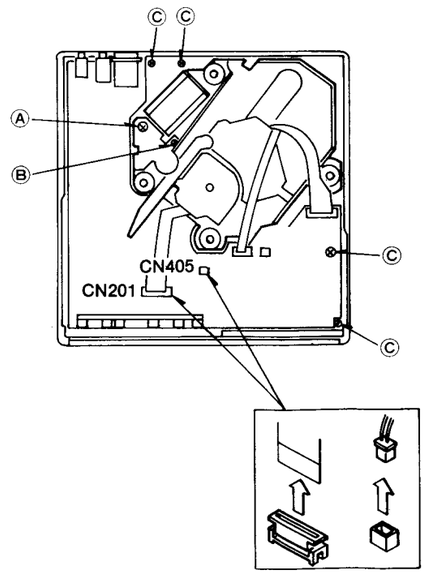


• Extension connector (SZZP1076C)

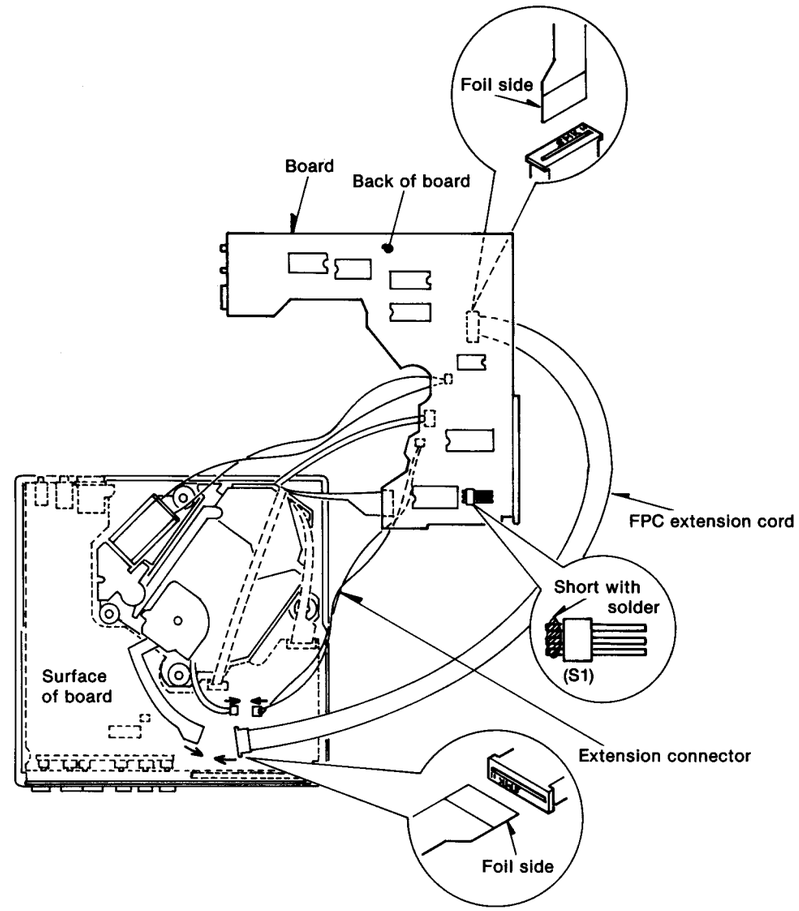


Procedure

1. Remove the bottom cover.
2. When the optical pickup is at the inner periphery, the P.C.B. cannot be removed because of the rack gear. So, remove the traverse motor setscrews (Ⓐ, Ⓑ) and shift the optical pickup to the outer periphery, then secure the traverse motor with the screws.
3. Remove the spindle board FPC (CN201) and inner periphery detection switch connector (CN405).
4. Remove the screws Ⓒ which fasten the P.C.B.



5. Remove the P.C.B. and place it in the position shown, then connect the FPC extension cord and extension connector. (Be sure to connect the FPC extension cord correctly.)
6. Solder the terminals of switch (S1) to short them.
7. Proceed to check the P.C.B. as required.



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ORDER NO. GAD8702017 S1
A6

Service Manual

Supplement

Stereo Radio Cassette Recorder

Radio Cassette
RX-FD80
(Black)

COMPACT disc DIGITAL AUDIO

DIGITAL

- Please use this manual together with the service manual for model No.RX-FD80 [M] order No. GAD8611621C1 and RX-FD80 [C] order No. GAD8701503A1.
- This Service Manual indicates the main differences between; Original RX-FD80 [M] RX-FD80 [C] and RX-FD80 [M] [C] supplement.

This is the Service Manual for the following areas.

[M] ···For U.S.A.

[C] ···For Canada.

ADDITION OF PARTS

■ **PARTS COMPARISON TABLE**

Ref. No.	Description	Part Number		Remarks
		RX-FD80 [M] RX-FD80 [C] (Original)	**RX-FD80 [M][C] (Supplement)**	
K92	Angle, Mechanism	RMX340ZA	————	
K133	Spacer	————	**RMX340ZA**	**Added**
K131	Clumper	————	**RHR1348ZA**	**Added**
K132	Spring	————	**RUW122ZB**	**Added**

CORRECTION OF PARTS

Ref. No.	Part No.	Part Name & Description	Remarks
K87	RUB 9025ZA	Lever, R/P	
K94	XSN3+4	Screw⊕ 3x4 (Mechanism Angle)	

⬇

K87	RUB9025ZA	**Lever Ass'y, R/P**	
K94	XSN3+4	**Screw⊕ 3x4 (Chassis Direction)**	

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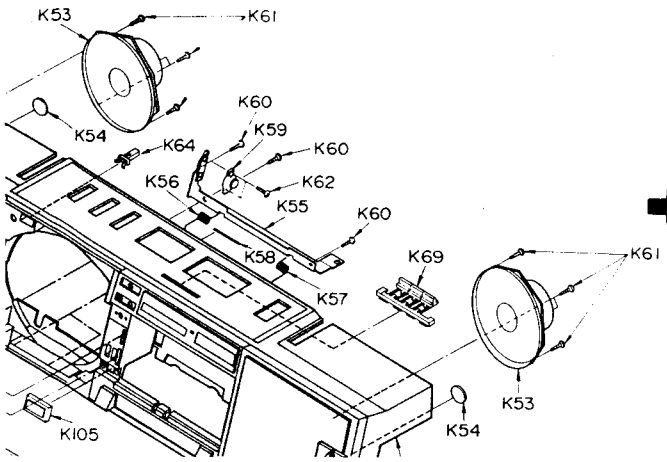
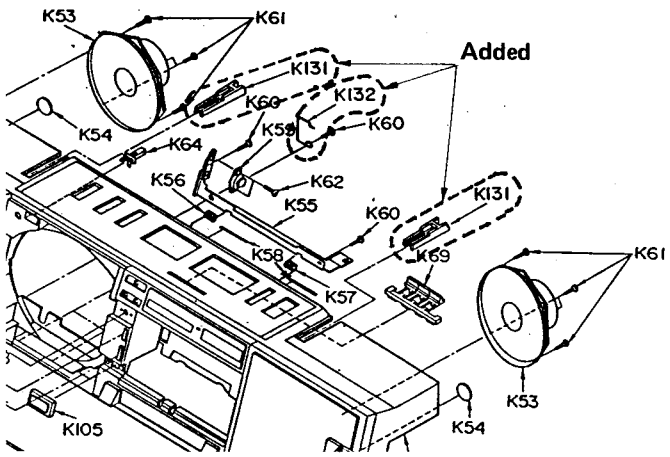
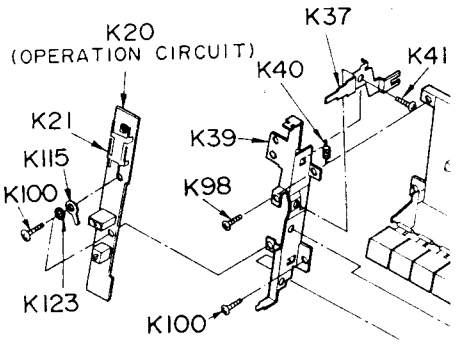
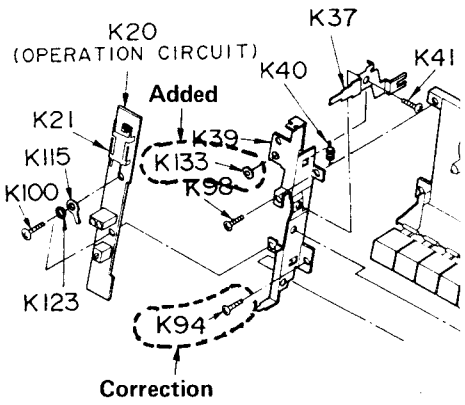
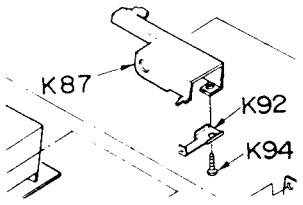
■ CABINET PARTS LOCATION



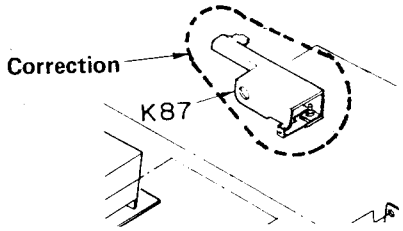








(Original)



(Supplement)

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